# manjaro

user guide 0.8.11

MANJARO LINUX 0.8.11

# USER GUIDE

THE MANJARO DEVELOPMENT TEAM

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The source code for this documentation can be downloaded from:
`https://github.com/manjaro/manjaro-user-guide/`

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The awesome community on `forum.manjaro.org` and `#manjaro`

### *A note about Manjaro and Arch*

Manjaro is based on another distribution called Arch Linux. As such, it is also able to draw software packages from the community-maintained Arch User Repository (AUR). However, please note that Manjaro is not Arch, and any enquiries about the Manjaro operating system should be directed towards the Manjaro forums and Internet Relay Chat (IRC) channels alone. For example, although Ubuntu is derived from Debian - and therefore shares some similarities with its parent - there are still substantial differences between these operating systems and how they work. Such is the case with Manjaro, which is far from just being an "easy to install" or "pre-configured" Arch operating system. Here are some of the key differences between the Manjaro and Arch operating systems:

- Manjaro is developed independently from Arch, and by a completely different team.
- Manjaro is designed to be accessible to newcomers, while Arch is aimed at experienced users.
- Manjaro draws software from its own independent repositories. These repositories also contain software packages not provided by Arch.
- Manjaro provides its own distribution-specific tools such as the Manjaro Hardware Detection (MHWD) utility, and the Manjaro Settings Manager (MSM).
- Manjaro has numerous subtle differences in how it works when compared to Arch.

To reiterate, although Manjaro is indeed an Arch-derivative, it is not Arch!

# *Contents*

*Introduction* 11

*I Getting Manjaro* 13

*Downloading Manjaro* 15

*Checking a downloaded disc image for errors* 19

*Writing a disc image* 23

*II Installing Manjaro* 29

*Booting the Live environment* 31

*Using the graphical automatic installer* 33

*Using the graphical installer - experienced users* 41

*Installing on a UEFI system* 47

*Advanced installation methods* 57

*III Welcome to Manjaro* 61

*The Manjaro desktop* 63

*Getting help* 69

*Maintaining your system* 75

*Index* 95

# *Introduction*

## *About Manjaro*

**Manjaro** is a user-friendly **GNU/Linux** distribution based on the independently developed **Arch Linux**. Within the Linux community, Arch itself is renowned for being an exceptionally fast, powerful, and lightweight distribution that provides access to the very latest cutting-edge software. However, Arch is also traditionally aimed at more experienced or technically-minded users. As such, it is generally considered to be beyond the reach of many, especially those who lack the technical expertise (or persistence) required to use it.

Developed in Austria, France, and Germany, Manjaro aims to provide all of the benefits of Arch Linux combined with a focus on user-friendliness and accessibility. Available in both 32- and 64-bit versions, Manjaro is suitable for newcomers as well as experienced Linux users. For newcomers, a user-friendly installer is provided, and the system itself is designed to work fully "straight out of the box" with features including:

- Pre-installed desktop environments
- Pre-installed graphical applications to easily install software and update your system
- Pre-installed codecs to play multimedia files,
- Pre-installed access to the latest games

## *Features*

Manjaro shares many of the same features as Arch, including:

- Speed, power, and efficiency
- Access to the very latest cutting- and bleeding-edge software
- A "rolling release" development model that provides the most up-to-date system possible without the need to regularly install a new operating system release

- Access to the Arch User Repositories
- The versatility to be shaped and moulded in every respect to suit personal taste and preference.

However, Manjaro boasts a few extra features of its own, including:

- A simplified, user-friendly installation process
- Automatic detection of your computer's hardware (e.g. graphics cards)
- Automatic installation of the necessary software (e.g. graphics drivers) for your system
- Dedicated software repositories that deliver fully tested and stable software packages
- Support for the easy installation and use of multiple kernels

1: Welcome to Manjaro!

# Part I

# Getting Manjaro

# *Downloading Manjaro*

## *Manjaro editions*

There are three official editions of Manjaro available for download, as well as a number of unofficial 'community' editions. Two of the three official editions come complete with a pre-installed desktop environment and a selection of popular software applications, and either of these would be a great choice for anyone who wants to try out Manjaro on a Live-CD without having to install it first. If you have the time it's worth taking each for a test run to see which you like best!

To download Manjaro go to this web address:`http://manjaro.org/get-manjaro/`

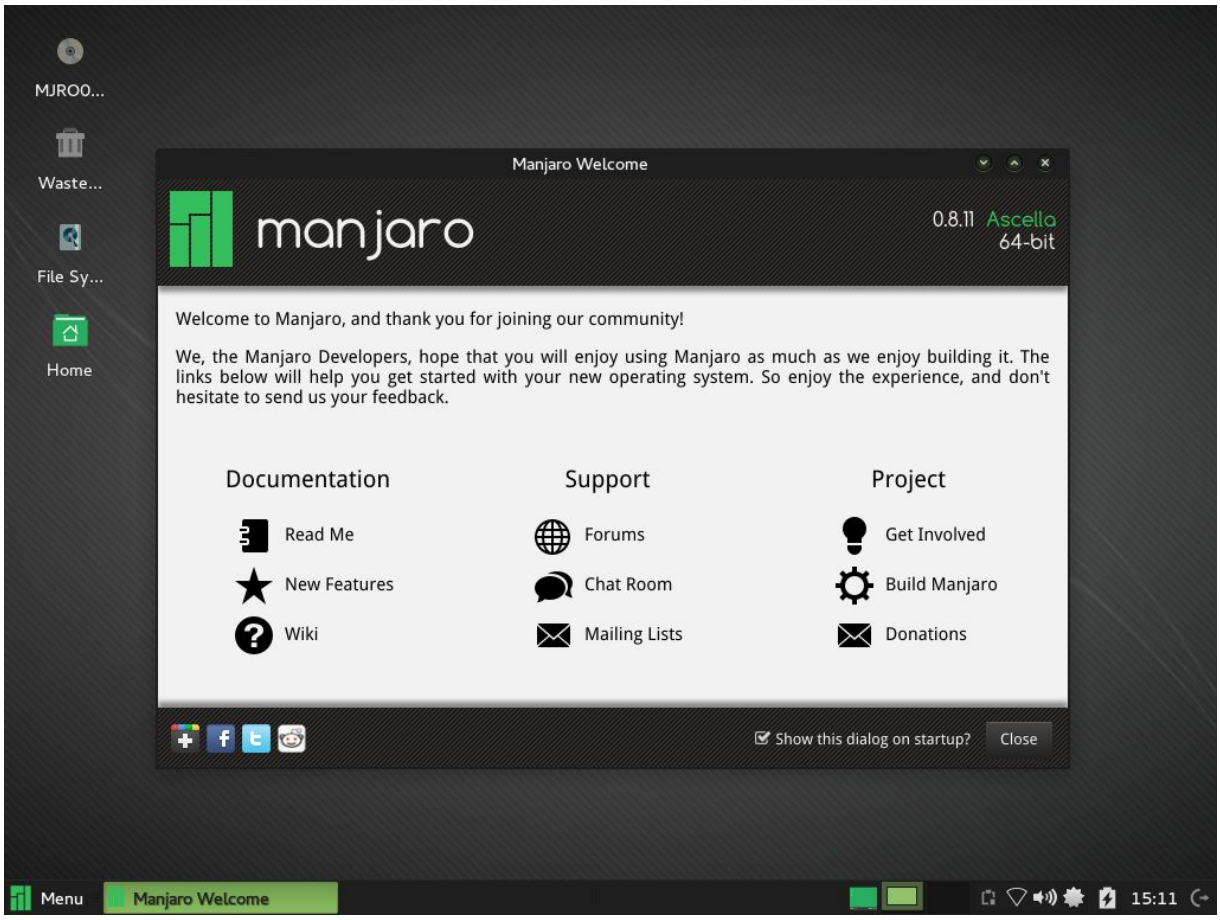
When you purchase retail software it generally comes on a disc, whether a CD or a DVD. A 'Live-CD' has a version of the operating system that will run without needing to be installed. This is a feature of most GNU/Linux and BSD-based operating systems.

*Xfce* The Xfce desktop environment is designed to be lightweight while retaining a familiar desktop interface. If you're not sure which edition to choose, this one is a good bet. Xfce edition disc image files start with **manjaro-xfce**.

*KDE* This version includes the K Desktop Environment. It offers a highly integrated environment with plenty of functionality and options. It is also highly customisable and offers a slightly different feel than the other editions. KDE edition disc image files start with **manjaro-kde**.

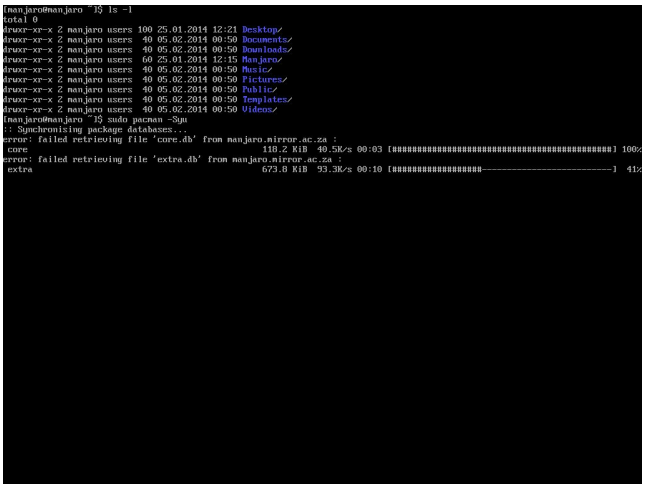
*Net* This edition of Manjaro provides only a base installation, stripped of all but the most basic pre-installed software. Starting from the command line, this is suitable for more experienced users who may want to build their own Manjaro system from the ground up. A disc image for a Net edition will always begin with **manjaro-net**.

Each edition of Manjaro is available as 32- and 64-bit versions. Disc images available for 32-bit systems will end in **i686.iso** and images for 64-bit systems will end in **x86_64.iso**. A 64-bit operating system won't run on a 32-bit system, and although a 32-bit operating system will run on a 64-bit system it won't be able to make full use of its resources. Try to make sure that you download the appropriate disc image for your system!




Xfce edition

KDE edition



Net edition

### *Manjaro community editions*

In addition to the three main Manjaro editions, there are a number of editions that have certain software or desktop environments pre-installed. This user manual assumes you are using the Xfce version, and all screenshots will be from this. However, the installation process and other software works in exactly the same way!

The edition names should give a clear indication of the desktop environment they install. Unless you have a strong preference, we suggest you stick with the Xfce version. You can of course change later, or install other desktop environments too!

There are several main community editions: Cinnamon, GNOME, MATE, Netbook, Openbox, Openbox OpenRC, and PekWM.

### *Downloading a disc image*

Every release of Manjaro is available for download, whether the current stable release, upcoming test builds, or previous versions for historical interest. When you visit the download page you will find a link to each of the three main editions in both 32- and 64-bit versions, as well as a checksum file for each. A checksum can be used to check the integrity of the disc image file you download to make sure it hasn't been corrupted during the download.

*Stable releases* of Manjaro are intended to be used by the general public, so this will be the appropriate choice for the majority of users. The current Manjaro release can always be downloaded from the Get Manjaro page.[1]

Each of the stable releases, starting from 0.8.0, can also be downloaded from the Stable Release section of the Sourceforge website.[2]

*Test builds* of Manjaro are intended to be used by developers and testers to identify any bugs or issues during the development process. **These are not suitable for use as a main operating system by the general public.** However, should you wish to try out a test build (preferably in a virtual machine), each current release can be downloaded from the from the Test Build section of the Sourceforge website.[3]

[1] `http://manjaro.org/get-manjaro/`

[2] `http://sourceforge.net/projects/manjarolinux/files/release/`

[3] `http://sourceforge.net/projects/manjarodev/files/testbuild/`

# *Checking a downloaded disc image for errors*

Before burning your downloaded disc image (or using it as a virtual disc in VirtualBox[4]) we strongly recommend that you first check that it hasn't been corrupted. The potential result of not checking first, especially if you want to install Manjaro as your main operating system, should be obvious. In the best case, the installation will fail. In the worst case a corrupted image will result in a corrupted installation.

[4] https://www.virtualbox.org/

To verify the integrity of the disc image you have to download the appropriate checksum file. This will be available at the same place where you downloaded the disc image file. For example, the file **manjaro-0.8.11-sha1sum.txt** contains checksum hashes for all the available disc image files and will have content similar to this:

```
831df1a4e06893de7663a159f5f22ddcfc386cc4  manjaro-kde-0.8.10-i686.iso
89240f1527d8ef8c8f8a57527fb64632a1160a16  manjaro-kde-0.8.10-x86_64.iso
6f0f26bd2a909343846c1acc8dddc3e128b6dbc4  manjaro-net-0.8.10-i686.iso
602758c12061221566a823fa6886537f293be545  manjaro-net-0.8.10-x86_64.iso
4dac7697b8c1f4ccc508d8e2ba52ad898d18aba7  manjaro-xfce-0.8.10-i686.iso
d3220e2c74f9082e0e8b366b9ffd240bfceebde0  manjaro-xfce-0.8.10-x86_64.iso
```

## *MD5 and SHA-1*

You may have seen there are two checksum files. One ends -sha1sum.txt, the other ends -md5sum.txt. MD5 and SHA are two types of hashing algorithms; the 'sha' part of the checksum file name stands for **Secure Hash Algorithm**. These algorithms are used to generate a hash code unique to the disc image file. The checksum file itself is just a text document that contains hash codes that should match the code generated by the MD5 or SHA-1 algorithm. Copies of the file can be checked to make sure they are exactly the same - if the file is changed in any way, either intentionally or by corruption, the code generated will be different.

Whilst MD5 is commonly used, SHA-1 is newer and more secure

and is beginning to replace MD5. For the purpose of checking the integrity of the downloaded file MD5 is "good enough" but SHA-1 is a better solution. The checking process is the same for both algorithms. We recommend you use SHA-1. For more about hashing algorithms Wikipedia has lots of information.[5]

[5] `https://en.wikipedia.org/wiki/Secure_Hash_Algorithm`

If the code generated from the disc image matches that contained in the checksum file, then the disc image file is fine. If the two codes don't match then it means that the disc image file has changed in some way, most likely due to being corrupted. You can think of it like someone using a password to identify who they are: if they provide the wrong password, then something is probably wrong.

From this point on we'll assume you are using the file **manjaro-0.8.11-sha1sum.txt**.

Test builds have a slightly different arrangement. Instead of a single file with all checksums, each disc image file has its own associated checksum file. If you're running the test build I'm sure you can work it out!

## *Checking in Linux*

### *Automatic verification*

The program `sha1sum` can automatically compare the checksum of the disc image you downloaded against the value in the text file. The process is very straightforward, but the end result might look a little worrying!

For this example, I first open a terminal and change to the directory where I downloaded the disc image file and checksum file. I use the command `ls` to check which files are present:

```
jonathon@box:~$ cd download
jonathon@box:~/download$ ls
manjaro-0.8.11-sha1sum.txt  manjaro-xfce-0.8.11-x86_64.iso
```

As you can see I have downloaded the 64-bit Xfce edition. Next, I run the `sha1sum` program to check against the values in the checksum file:

```
jonathon@box:~/download$ sha1sum -c manjaro-0.8.11-sha1sum.txt
```

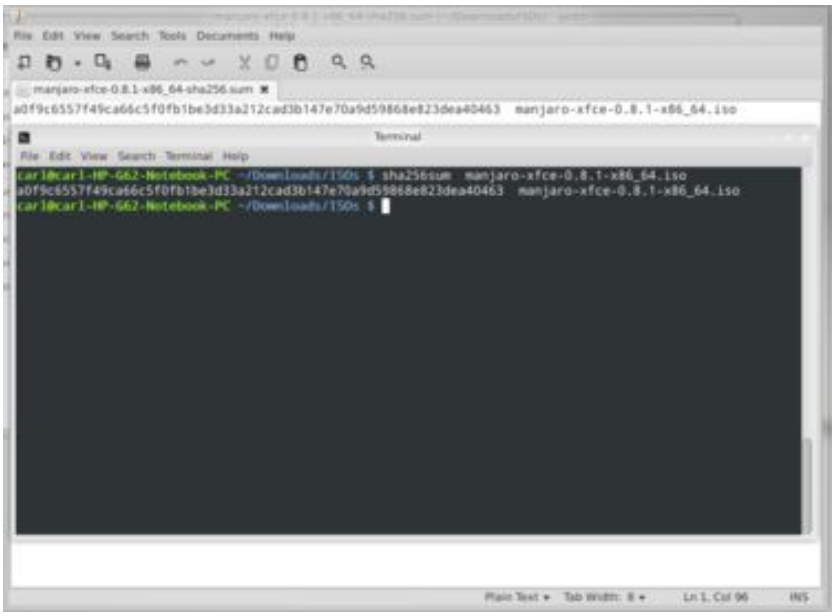
The next set of lines show the result of the checks. While the first few lines look worrying this is to be expected - the program can't check disc image files that aren't there! The second to last line is the important one. It shows that `sha1sum` has successfully verified the disc image I downloaded against the checksum value in the file.

```
sha1sum: manjaro-kde-0.8.11-i686.iso: No such file or directory
manjaro-kde-0.8.11-i686.iso: FAILED open or read
```

```
sha1sum: manjaro-kde-0.8.11-x86_64.iso: No such file or directory
manjaro-kde-0.8.11-x86_64.iso: FAILED open or read
sha1sum: manjaro-net-0.8.11-i686.iso: No such file or directory
manjaro-net-0.8.11-i686.iso: FAILED open or read
sha1sum: manjaro-net-0.8.11-x86_64.iso: No such file or directory
manjaro-net-0.8.11-x86_64.iso: FAILED open or read
sha1sum: manjaro-xfce-0.8.11-i686.iso: No such file or directory
manjaro-xfce-0.8.11-i686.iso: FAILED open or read
sha1sum: manjaro-xfce-0.8.11-x86_64.iso: OK
sha1sum: WARNING: 7 listed files could not be read
```

*Manual verification*

To manually check the integrity of your downloaded file, first open the downloaded **manjaro-0.8.11-sha1sum.txt** checksum file using a text editor such as Gedit. Once the checksum file has been opened, and the codes are visible, open up your terminal and change to the directory where your downloaded disc image is stored.


File Edit View Search Tools Documents Help
manjaro-xfce-0.8.1-x86_64-sha256.sum
a0f9c6557f49ca66c5f0fb1be3d33a212cad3b147e70a9d59868e823dea40463 manjaro-xfce-0.8.1-x86_64.iso
Terminal
File Edit View Search Terminal Help
carl@carl-HP-G62-Notebook-PC ~/Downloads/ISOs $ sha256sum manjaro-xfce-0.8.1-x86_64.iso
a0f9c6557f49ca66c5f0fb1be3d33a212cad3b147e70a9d59868e823dea40463 manjaro-xfce-0.8.1-x86_64.iso
carl@carl-HP-G62-Notebook-PC ~/Downloads/ISOs $
Plain Text Tab Width: 8 Ln 1, Col 96 INS

1: Verifying the checksum displayed in gedit against the output of sha1sum

For example, if your disc image file is located in a directory named `download`, you would first change to that directory:

```
jonathon@box:~$ cd download
```

Then you can generate an SHA-1 hash code for the disc image using:

```
jonathon@box:~/download$ sha1sum manjaro-xfce-0.8.11-x86_64.iso
```

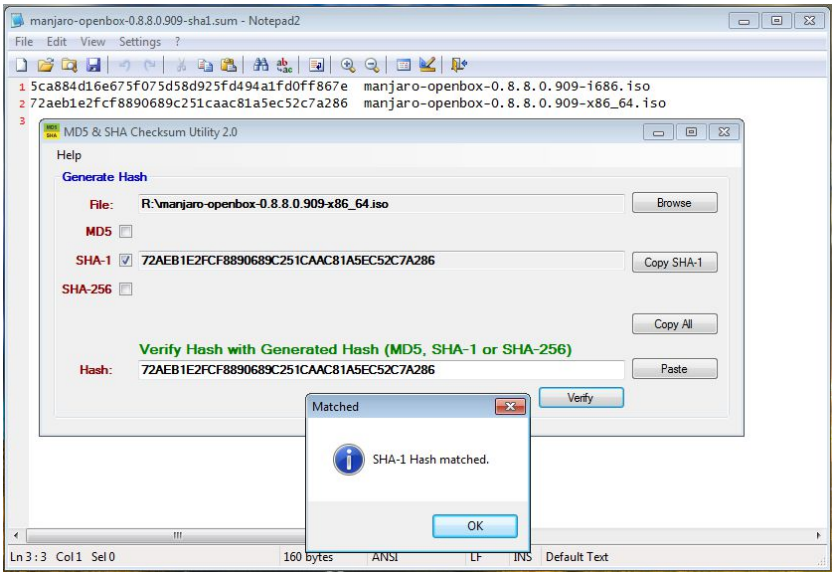
This command generates a hash code for the 64-bit Manjaro Xfce 0.8.11 disc image which can then be manually compared to the code contained in the checksum file.

## *Checking in Microsoft Windows*

Unlike Linux, Microsoft Windows does not have any suitable built-in tools so you will need to download and install a checksum utility application. A web search will turn up several examples of free software, or you can look on the **Download.com** website.[6] Another free checksum utility which has positive reviews is **Raymond's MD5 & SHA Checksum Utility**.[7] This is the program we will use in the following example.

[6] `http://download.cnet.com/`

[7] `http://raylin.wordpress.com/downloads/md5-sha-1-checksum-utility/`




2: Verifying the checksum in Microsoft Windows using Raymond's MD5 & SHA Checksum Utility.

Once you have downloaded the checksum utility, the checking process is very straightforward. Simply **Browse** to the downloaded disc image, select it, and click **Open**. The program will then calculate the checksums for the disc image file. To verify the checksum is correct, open the **manjaro-0.8.11-sha1sum.txt** in a text editor such as Notepad, copy the checksum for the disc image file you have downloaded, and paste it into the verification box. Then click **Verify**. If there are no problems with the disc image file the program will inform you that the hash matched.

To speed up the process it's probably a good idea to deselect the hashes you are not verifying.

# *Writing a disc image*

A disc image is not a copy-and-paste duplication of files: it's a bit-for-bit copy of the raw data that makes up the files and folders of that disc. This is why just copying a disc image file to a disc (or USB flashdrive) to begin installing won't work: you'll need to use a disc burning or image writing application to translate that raw data into the files and folders.

There is an exception to this rule. If you intend on installing Manjaro in a virtual machine environment using Oracle's VirtualBox, then there will be no need to burn the image as VirtualBox will be able to read from the disc image file directly as a virtual disc.

Once converted, the files can be used to run Manjaro in Live-CD mode without having to install it to your system, and/or install Manjaro on your system. It's important to note Manjaro will not have full functionality when run in Live-CD mode. For example, you will not be able to save any changes to the system, install updates or add new applications.

Due to the amount of software included on the full edition disc images you may need to use a DVD instead of a CD. Check the following table as a guide if you're not sure:

| Edition | Filename | Size | Media |
|---|---|---|---|
| KDE | manjaro-kde-0.8.11-i686.iso | 1.5GB | DVD |
| | manjaro-kde-0.8.11-x86_64.iso | 1.6GB | |
| Xfce | manjaro-xfce-0.8.11-i686.iso | 1.3GB | DVD |
| | manjaro-xfce-0.8.11-x86_64.iso | 1.4GB | |
| Net | manjaro-net-0.8.11-i686.iso | 540MB | CD |
| | manjaro-net-0.8.11-x86_64.iso | 670MB | |

Table 1: Manjaro Edition disc image file sizes

Many people routinely use a DVD rather than a CD even for the smallest disc image files. Not only is a DVD faster to burn but they allow higher data access rates so the Live-CD loads faster and the installation completes sooner.

However, with the increasing capacity and decreasing cost of USB flash media this presents an even more attractive method than the traditional burning process; it is far faster and more flexible than using optical media. Both CD/DVD burning and USB flash media installation methods are covered in this guide.

If your system will boot from a USB device, and you have one of sufficient capacity that you can erase, we recommend the use of a USB flash drive over traditional CD/DVD media.

## *Burning to a CD/DVD in Linux*

If not already installed, several different software burning applications should be available for installation from your distribution's Software Center / Software Manager / Package Manager / repositories. Popular burners include **XFBurn**, **K3b**, and **Brasero**. Which one you choose is entirely down to personal choice, though your operating system will usually install one suitable for your desktop environment. To simplify things a little, the following steps for burning your downloaded Manjaro disc image use Brasero.

Xfce environments tend to include XFBurn. KDE environments tend to include K3b. GNOME environments tend to include Brasero.

### *Burning using Brasero*

1. Insert a blank CD/DVD.
2. Start the **Brasero** software burner.
3. Click the **Burn Image - Burn an existing CD/DVD image to disc** button to open the **Image Burning Setup** window.
4. Click the button beneath the title **Select a disc image to write** to open up your file manager. Locate and double-click the downloaded disc image file to load it. Upon automatically returning to the **Image Burning Setup** window, note that the disc image file is now listed as the disc image to write.
5. The blank CD/DVD you inserted should be automatically listed underneath the title **Select a disc to write to**. If not, click the button to select it manually.
6. Click the **properties** button to open the properties window, and then click the button beneath the title **Burning Speed**. We strongly recommend you select the slowest speed available. Once selected, click the Close button.
7. Click the **Burn** button to start the burning process. If necessary, follow any on-screen instructions provided.

It's a good idea to use rewriteable disc (e.g. CD-RW or DVD-RW). Although slightly more expensive individually than a write-once disc you can reuse the disc again and again, for example when the next version of Manjaro is released!

We strongly recommend you select the slowest speed available when burning to disc in order minimise the possibility of corruption during the burning process.

It's also a good idea to avoid using any applications which make intensive use of system resources while burning, and in particular avoid heavy disc access. If the burner software can't read the disc image file quickly enough the burning process can be interrupted.

## *Burning to a CD/DVD in Microsoft Windows*

Newer versions of Microsoft Windows (Windows 7 and later) include a disc image burner. If you do not have a newer version of Microsoft Windows you will need to download one of the many free disc burning software utilities.

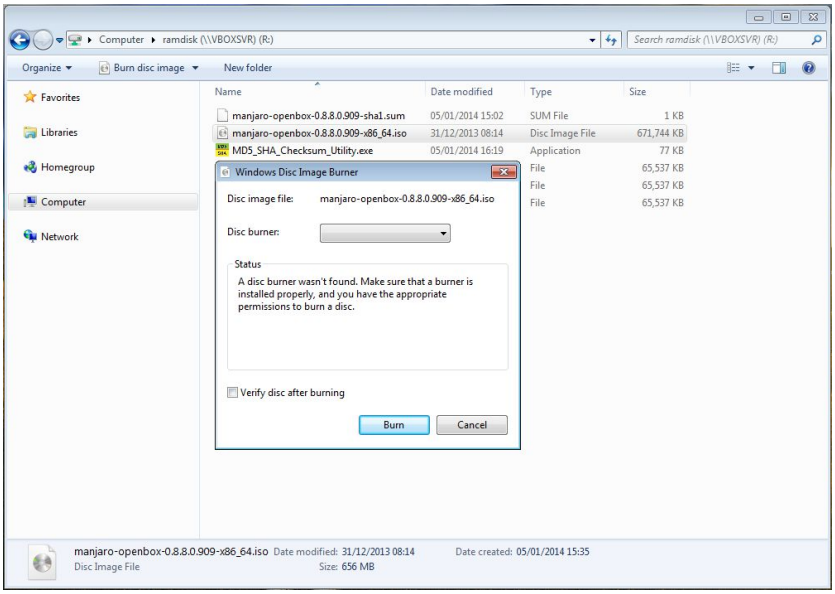
### *Burning using Windows Disc Image Burner*

Selecting the disc image file and clicking on **Burn disc image**, or simply double-clicking on the file itself, will start the **Windows Disc**

**Image Burner** program. This makes the process of burning to a disc very straightforward:

1. Insert a blank CD/DVD into your disc drive.
2. Start **Windows Disc Image Burner**.
3. Click **Burn**.

For more information about this program see: `http://windows.microsoft.com/en-gb/windows7/burn-a-cd-or-dvd-from-an-iso-file`




1: Windows Disc Image Burner in Microsoft Windows 7

### *Burning using a third-party application*

For versions of Microsoft Windows earlier than Windows 7 (e.g. Windows XP) you will need to download and install third-party disc burning software. There are many free examples available that will be found by a web search, but here are some of the most popular:

| Name | Website | Video tutorial |
|---|---|---|
| Imgburn | `http://imgburn.com/` | `http://www.youtube.com/watch?v=XihCQgmeGV4` |
| CDBurnerXP | `http://cdburnerxp.se/en/` | `http://www.youtube.com/watch?v=LxYkFdwn1qI` |
| InfraRecorder | `http://infrarecorder.org/` | |

Table 2: Third-party disc burning software for Microsoft Windows

The burning process for each of these applications is similar, with small differences in user interface. The websites listed above will provide information about features and screenshots of the applications themselves. For a little more information about each of these applications, an overview of each is available in the **CD/DVD Burning Article** on the TechSupportAlert website.[8] Alternative burning software may also be found on the Download.com website,[9] although

[8] `http://www.techsupportalert.com/best-free-cd-dvd-burning-software.htm`
[9] `http://download.cnet.com/`

you will have to filter the search results to view only free applications. It will also be worthwhile to take the time to read any reviews provided for your choice(s).

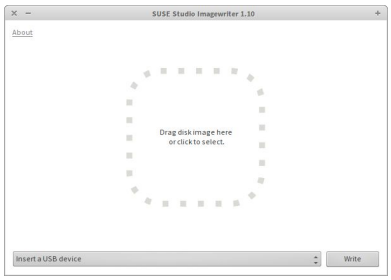
## *Writing to a USB flash drive in Linux*

To take advantage of the faster access times and much quieter nature of a USB flash drive, there are a number of methods of writing the disc image file. One of the easiest is to use **ImageWriter**.

ImageWriter should be available for installation from your distribution's Software Center / Software Manager / Package Manager / repositories. Once Imagewriter has been downloaded and installed, ensure that your USB flash drive is plugged in before starting the application.

The process of using ImageWriter is very straightforward:

1. Click on the centre icon.
2. Navigate to where you downloaded the disc image file, and select it.
3. Ensure that your USB flash drive has been selected from the drop-down menu.
4. Click on the **Write** button.
5. Once it has finished, reboot your system, making sure to select the USB flash drive as the boot device.




2: ImageWriter
`https://en.opensuse.org/SDB:Live_USB_stick`

## *Writing to a USB flash drive in Microsoft Windows*

We recommend you use **ImageWriter For Windows**, which is a free application designed to write disc images to USB flash drives as well as Compact Flash (CF) and Secure Digital (SD) cards. Once Imagewriter has been downloaded and installed, ensure that your USB flash drive is plugged in before starting it.

If you find that ImageWriter is unable to start, you might have to download Microsoft's .NET 2.0 Runtime Framework. This is needed by some software programs though it is normally already installed on your Windows PC.

In addition, if an error message is displayed upon starting the process on Windows Vista and later, you might need to open ImageWriter by first right-clicking on the icon, and then selecting the **Run as Administrator** option.

For more detailed information about the software it's worth reading the website, though the process is very straightforward:

3: Windows ImageWriter
`http://sourceforge.net/projects/win32diskimager/`

Make sure that Windows Explorer is closed before attempting to write the disc image, otherwise it may block access to the USB flash drive. If this happens the following error message will be displayed: **system.componentModel.Win32Exception: Access is denied.**

1. Click the select button (folder icon).
2. Navigate to and select the Manjaro disc image.
3. Select your USB flash drive from the **Device** menu.
4. Click the **Write** button.
5. Once it has finished, reboot your system, making sure to select the USB flash drive as the boot device.

If for some reason the writing process is unsuccessful the ImageWriter authors recommend that you use a partitioning tool to reformat the USB flash drive as a RAW partition type, then try again. Unfortunately this process is outside the scope of this guide.

Re-partitioning your USB stick as a RAW data type will result in all data present being destroyed, and will render it unusable for other purposes until reformatted back to its original partition type

# Part II

# Installing Manjaro

# *Booting the Live environment*

Booting the Live environment, whether from CD/DVD or USB flash drive, will give you an overview of the Manjaro Linux environment and let you test how well it will run on your machine. This is very useful to check before committing to install a new operating system!

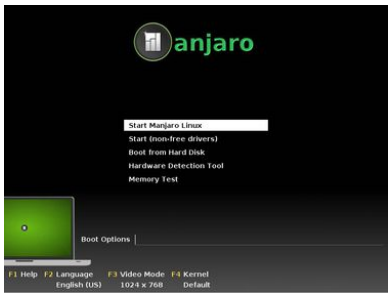
For best results you should be connected to the Internet. If you have a wired Ethernet connection, and plug in before booting the Live environment, Manjaro will automatically set up a connection. If you have a wireless (Wi-Fi) connection you can set up the wireless network once you have reached the Manjaro desktop.

The method of selecting the boot device varies considerably across machines. You may need to hold one key, for example <**Esc**>, <**Del**>, or <**F10**>, to select the boot device. Or, you may need to set the option in your BIOS. If you're not sure, your machine's user guide will have detail of the method you need, alternatively a web search will also quickly turn up the answer.

## *The boot menu*

When you boot from your installation media (CD/DVD or USB flash drive) you should be presented with the Manjaro boot screen. This screen provides several options to help get the best experience from the Live environment.

It is possible at this stage to set your preferred language and keyboard layout before using Manjaro. This means that you will be able to use and install Manjaro in your native language straight away.




1: Boot menu

## *Setting your language and keyboard layout*

First, set your preferred language by pressing the **<F2>** key. The options available can be highlighted for selection by using the arrow keys on your keyboard. In this instance, English (UK) has been highlighted for the user.

Once selected, press <**Enter**> to confirm and to be taken back to the boot menu.

2: Language selection

Selecting the language will also set a keyboard layout appropriate to that language, for example it will select QWERTY for English and AZERTY for French. If this doesn't match your layout, or perhaps you have a US layout but speak German, press <**F2**> again, but this time select **Keyboard**. Pick the language that matches your keyboard layout, and press <**Enter**> to confirm and return to the boot menu.

## *Choosing the drivers*

There are two main sets of drivers that can be used by Manjaro: **Free** and **non-Free**. The differences are not minor, and your choice can depend on your computer hardware.

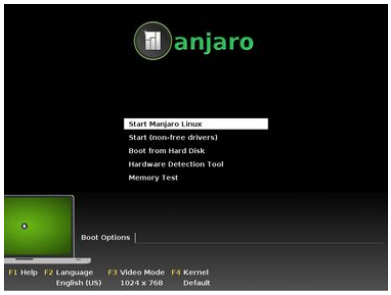
If in doubt, choose **Free** drivers. If you want to play games, choose **non-Free** drivers.

*Free* drivers are open-source, like Manjaro itself, written and updated by a large community. For older hardware and that with Intel-based integrated graphics, this is the best choice.

*Non-Free* drivers are closed-source, written and updated only by the hardware manufacturers. This is generally the best choice for newer hardware with AMD or Nvidia dedicated graphics. At the time of writing, **non-Free** drivers are the best choice for Nvidia graphics and AMD graphics newer than the 8000-series. For older AMD and Nvidia hardware the **Free** drivers work very well. For AMD graphics older than the HD5000-series **Free** drivers are the best choice.

To start Manjaro with **Free** drivers, choose **Start Manjaro Linux** from the boot menu.

To start Manjaro with **non-Free** drivers, choose **Start (non-free drivers)** from the boot menu.

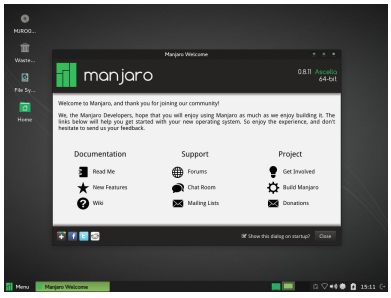



3: Start Manjaro Linux

## *Welcome to Manjaro*

Once you select Start, Manjaro will boot up. You may see a lot of scrolling text - don't worry, this shows the system is working! After a little while, assuming your hardware is compatible, you will be presented with a Live desktop environment and a nice friendly welcome screen.

The welcome screen gives some links to common tasks, documentation (like the thing you're reading now!) and the support channels. There are also links to the installation programs. Don't worry if you close the welcome screen: you can load it again, and all the links are also present elsewhere in the menus.




4: Welcome to Manjaro!

# *Using the graphical automatic installer*

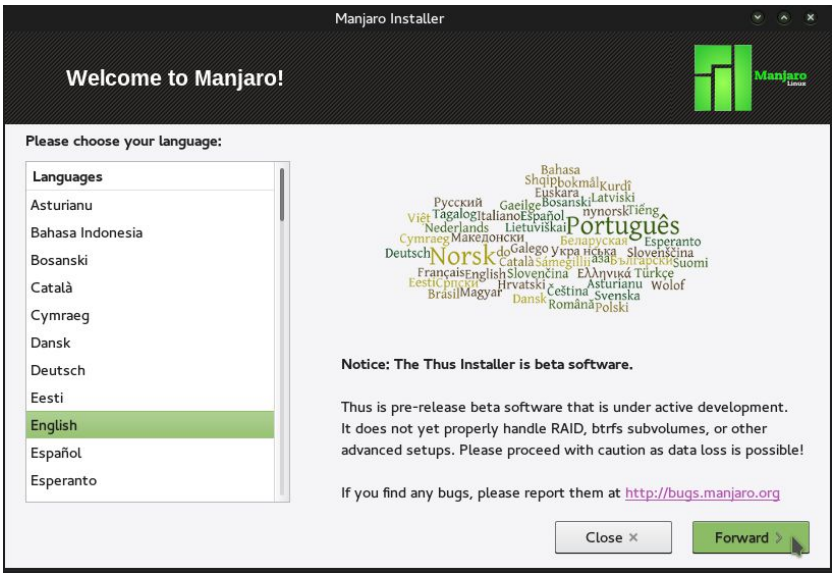
This guide is intended for those with limited technical knowledge and experience. With these steps it won't be necessary to manually partition your computer's hard disc or to manually edit any configuration files. However, the overall flexibility of the process is not as great as the advanced installation process.

Where possible, make sure you are connected to the internet before booting from your installation media into the Live environment. If you have a hard-wired connection via an Ethernet cable, then Manjaro will automatically connect to the internet without you having to do anything. Otherwise, once you have booted into Manjaro's desktop, you will need to select and then connect to your wireless network.

For a constantly-updated version, check out the wiki:

*User guide:* `http://wiki.manjaro.org/index.php?title=Graphical_Installation_Guide_for_Beginners_0.8.11`

*Choose your language*



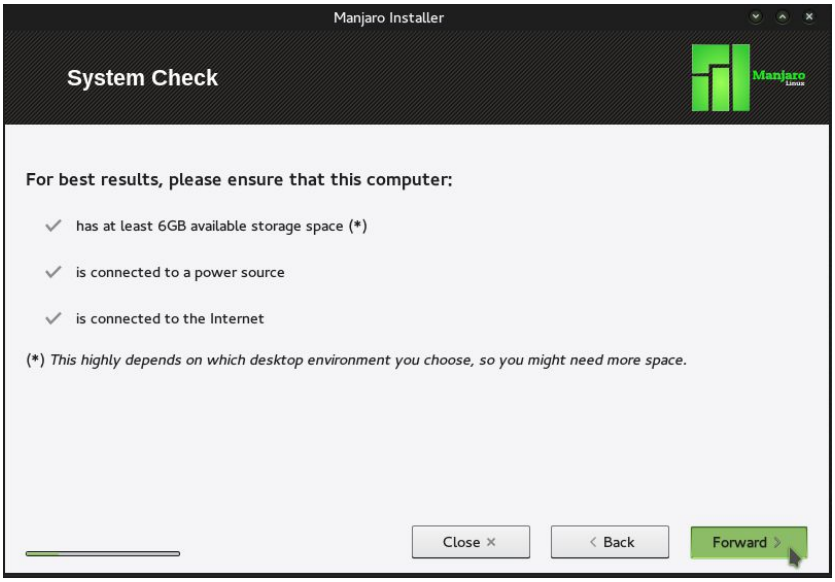

1: If you selected your preferred language before booting then it should already be selected for you.
Once selected, click **Forward** to proceed to the next step.

*Choose your location*

Manjaro Installer
Select your location
The selected location will be used to help select the system locale.
Normally this should be the country where you live.
This is a shortlist of locations based on the language you selected.
Country, territory or area:
English (AU), Australia
English (BW), Botswana
English (CA), Canada
English (DK), Denmark
English (GB), United Kingdom
English (HK), Hong Kong
English (IE), Ireland
English (NZ), New Zealand
Close
Back
Forward

2: The locations available to choose will depend upon the language you selected in the previous step.
Once selected, click **Forward** to proceed to the next step.

*Check the minimum requirements*


Manjaro Installer
System Check
For best results, please ensure that this computer:
has at least 6GB available storage space (*)
is connected to a power source
is connected to the Internet
(*) This highly depends on which desktop environment you choose, so you might need more space.
Close
Back
Forward

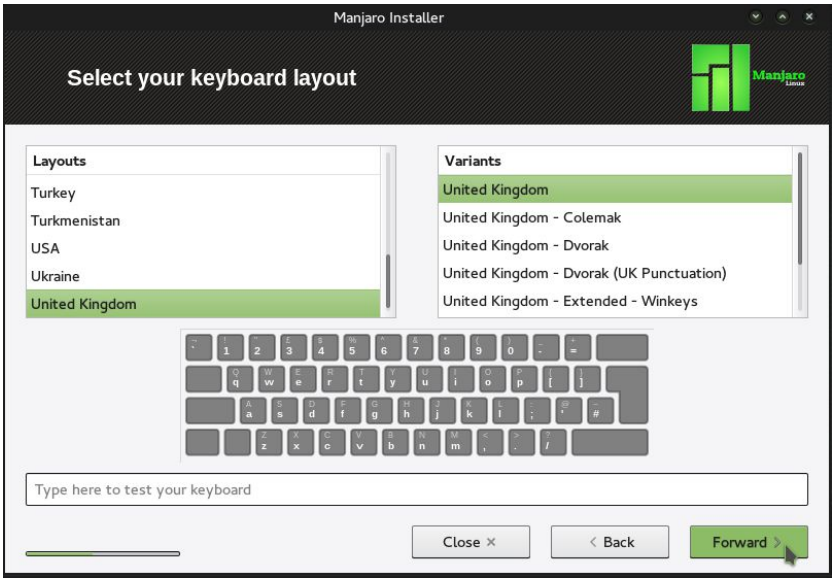
3: Your computer will automatically be checked to make sure that Manjaro can safely be installed. This will include checking that enough storage space is available.
Once satisfied that your system meets the minimum requirements necessary, click **Forward** to proceed to the next step.

Although the absolute minimum allowed is 6 Gigabytes, at least 15 Gigabytes of free space is recommended.
While it's not necessary to have an active internet connection to install Manjaro it's highly recommended.

*Set your timezone*

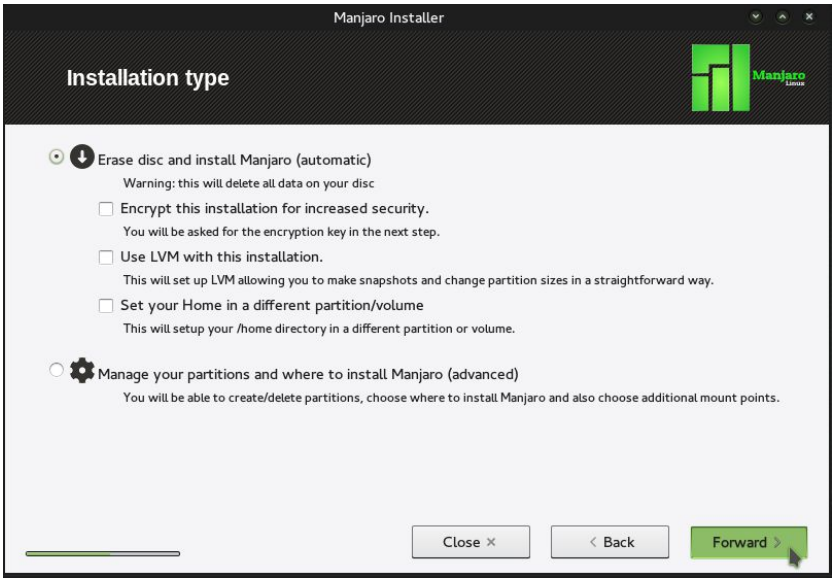
4: To set your timezone, either click on the map or pick from the menus. **Zone** is the continent you live on. **Region** is the city closest to where you live. We recommend keeping **Network Time Protocol** synchronisation enabled so your clock will never be wrong! This relies on an active internet connection, however.

*Choose your keyboard layout*




5: Just because you live in a certain location that doesn't mean you have to use the keyboard layout native to it. This screen allows you to choose your keyboard layout and variant such as 'Dvorak' or one with 'dead keys' for extended punctuation. To choose your desired layout simply click first on a **Layout**, then on a **Variant**. Variants shown will depend on the layout chosen.
Once satisfied that these details are correct, click **Forward** to proceed to the next step.

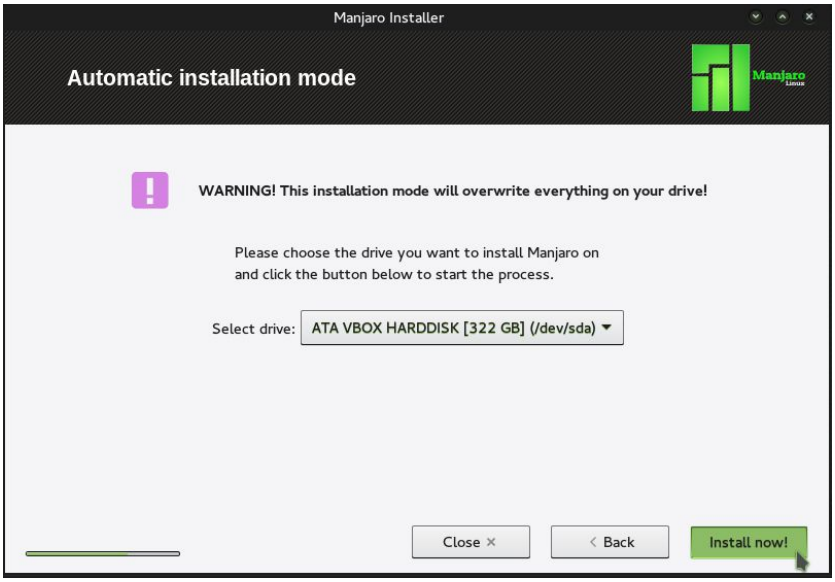
*Set the installation type*


Manjaro Installer
Installation type
Erase disc and install Manjaro (automatic)
Warning: this will delete all data on your disc
Encrypt this installation for increased security.
You will be asked for the encryption key in the next step.
Use LVM with this installation.
This will set up LVM allowing you to make snapshots and change partition sizes in a straightforward way.
Set your Home in a different partition/volume
This will setup your /home directory in a different partition or volume.
Manage your partitions and where to install Manjaro (advanced)
You will be able to create/delete partitions, choose where to install Manjaro and also choose additional mount points.
Close
Back
Forward

6: To proceed with the 'automatic' (and very easy) installation method make sure that the **Erase disc and install Manjaro (automatic)** option has been selected. **Be aware that this will wipe the disc you choose in the next step and erase all its data.**
Once complete, click **Forward** to proceed to the next step.

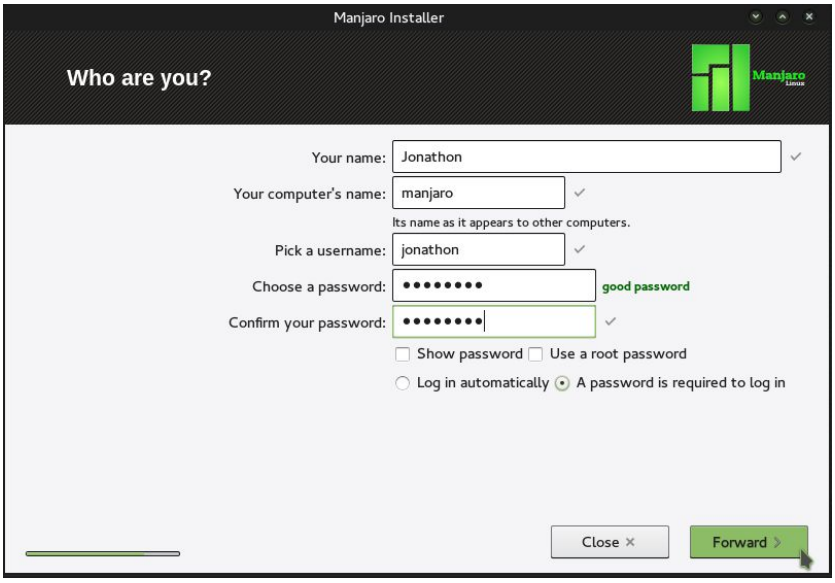
It is generally recommended that you **Set your Home in a different partition/volume**. This keeps your documents separate from the operating system files.

*Choose your disk*


Manjaro Installer
Automatic installation mode
Manjaro
WARNING! This installation mode will overwrite everything on your drive!
Please choose the drive you want to install Manjaro on
and click the button below to start the process.
Select drive:
ATA VBOX HARDDISK [322 GB] (/dev/sda)
Close
Back
Install now!

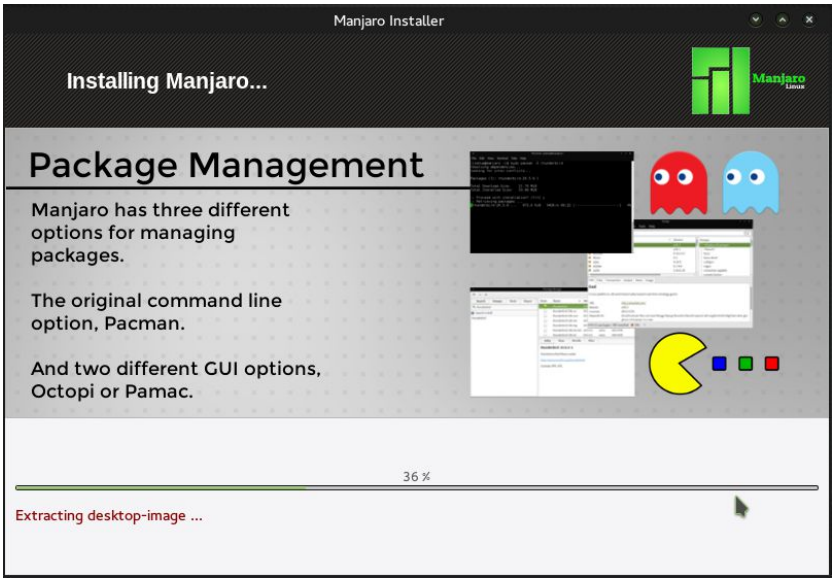
7: If you have more than one hard drive on your computer, then you will need to decide which one to wipe so you can install Manjaro.
Once selected, click **Install Now!** to proceed to the next step.

*Add your user account*




8: Now it's time to personalise your installation! Enter your real name, a name for your computer (just enter 'manjaro' if you can't think of one), and your username. Your username will be the name of your personal account in Manjaro.
You will also need to enter your intended password twice. Remember that the use of upper and lower case letters matters (e.g. 'abc123' is not the same as 'ABC123').
All done! Once satisfied that these details are correct, click **Forward** to view the installation process.

*Installation...*

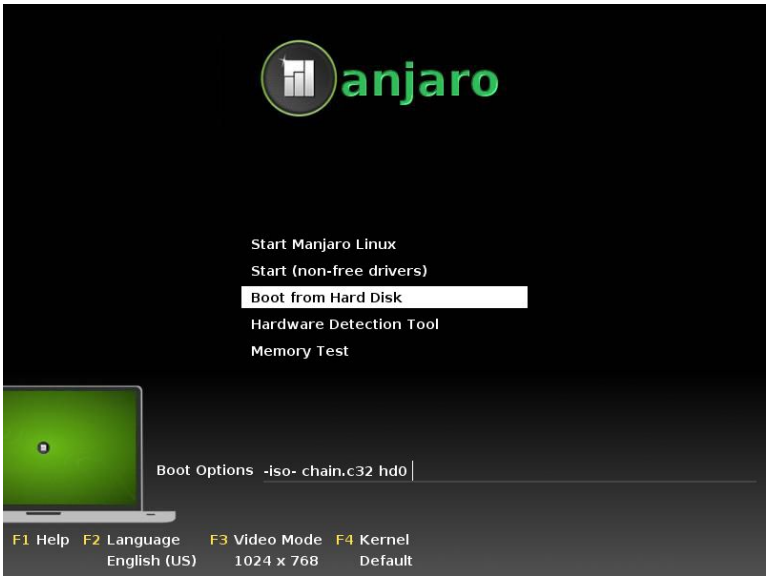

Manjaro Installer
Installing Manjaro...
Package Management
Manjaro has three different options for managing packages.
The original command line option, Pacman.
And two different GUI options, Octopi or Pamac.
36 %
Extracting desktop-image ...

9: The automatic installation process is well underway. While you wait for it to complete, useful information about Manjaro and its community will be displayed.

*...complete!*

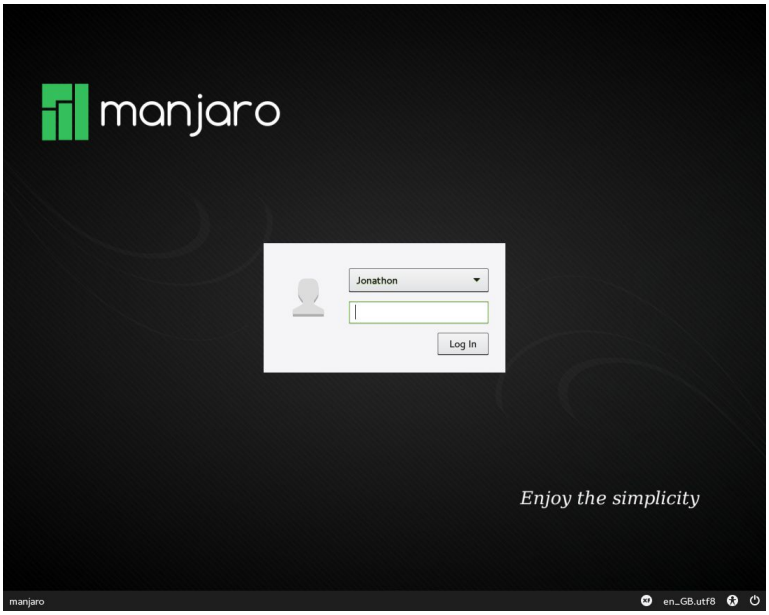
10: Once the installation has finished you will be asked if you want to restart your system. Select **Yes** to reboot immediately, or **No** to close the installer and continue using the Manjaro Live environment.

*Boot your new operating system*


anjaro
Start Manjaro Linux
Start (non-free drivers)
Boot from Hard Disk
Hardware Detection Tool
Memory Test
Boot Options -iso- chain.c32 hd0
F1 Help F2 Language F3 Video Mode F4 Kernel
English (US) 1024 x 768 Default

11: When you reboot, if you accidentally boot from the Live CD or USB drive you used to install Manjaro, you can choose **Boot from Hard Disk** and press **<Enter>**.

*Log in*




12: Once Manjaro has booted enter your username and password and enjoy your fresh Manjaro system!
If you like Manjaro, you might consider joining the Manjaro community on its forums or IRC channel. We look forward to meeting you!

# *Using the graphical installer - experienced users*

This guide is intended for those with sufficient technical knowledge to manually create their own partitions. As such, this guide focuses on providing an example of how to use the 'Advanced' installation method in general, rather than outlining the entire installation process, or listing all the popular partition schemes that may be used.

This guide also assumes you have read the Automatic installation guide steps 1-5 as these are exactly the same.

Where possible, make sure you are connected to the internet before booting from your installation media into the Live environment. If you have a hard-wired connection via an Ethernet cable, then Manjaro will automatically connect to the internet without you having to do anything. Otherwise, once you have booted into Manjaro's desktop, you will need to select and then connect to your wireless network.

For a constantly-updated version of this guide, check out the wiki page:

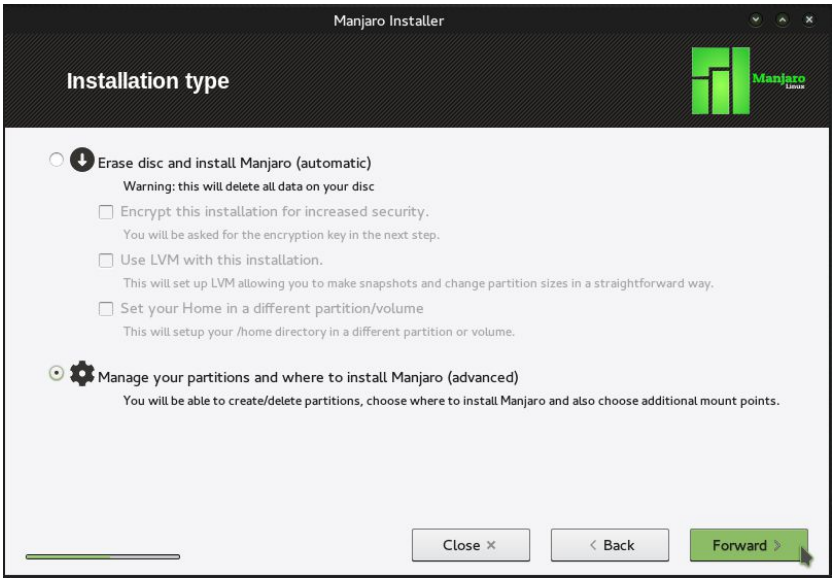
*User guide:* `http://wiki.manjaro.org/index.php?title=Graphical_Installation_Guide_for_Experienced_Users_0.8.11`

For a refresher on partitioning your disk, check out the wiki pages on partitioning and partitioning scenarios:

*Partitioning:* `http://wiki.manjaro.org/index.php?title=Partitioning_Overview_and_Existing_Partition_Tables`

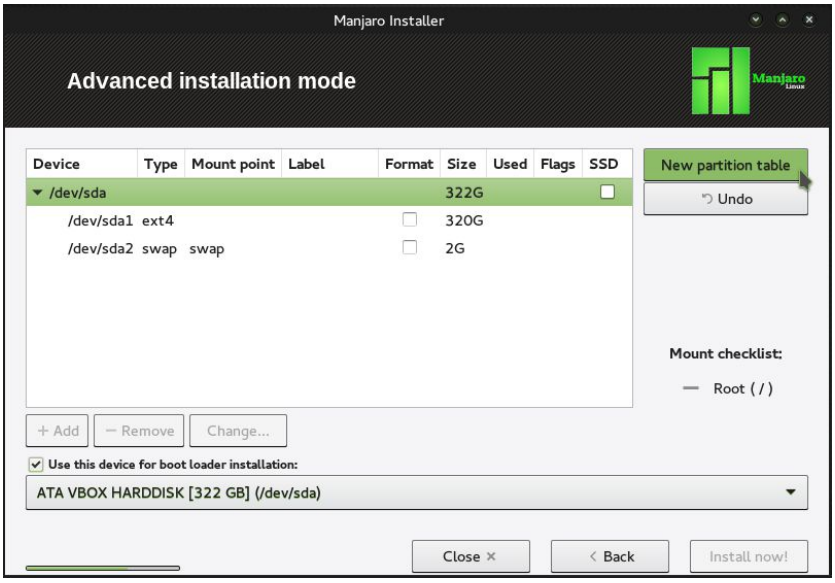
*Partitioning scenarios:* `http://wiki.manjaro.org/index.php?title=Cfdisk_Basic_Partitioning_Scenarios`

*Start the advanced installation method*


Manjaro Installer
Installation type
Erase disc and install Manjaro (automatic)
Warning: this will delete all data on your disc
Encrypt this installation for increased security.
You will be asked for the encryption key in the next step.
Use LVM with this installation.
This will set up LVM allowing you to make snapshots and change partition sizes in a straightforward way.
Set your Home in a different partition/volume
This will setup your /home directory in a different partition or volume.
Manage your partitions and where to install Manjaro (advanced)
You will be able to create/delete partitions, choose where to install Manjaro and also choose additional mount points.
Close
Back
Forward

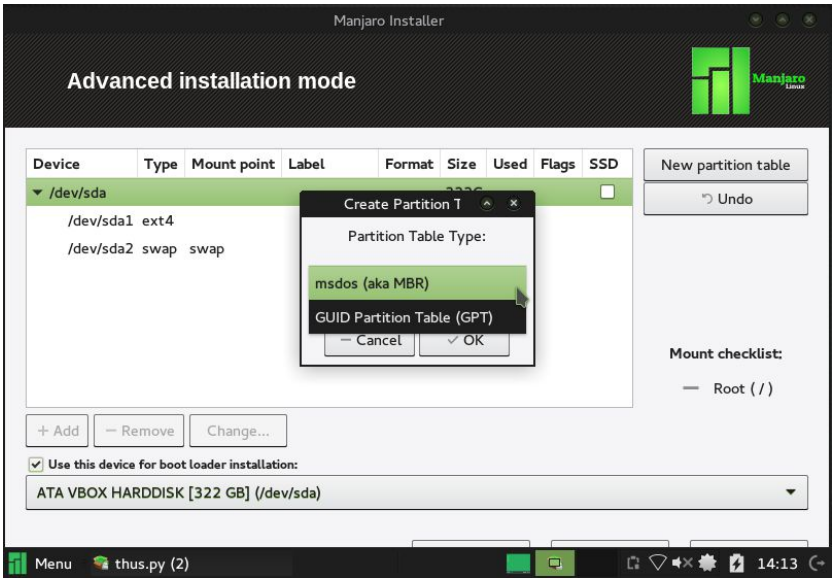
1: When you reach the sixth step of the installation process, select **Manage your partitions and where to install Manjaro (advanced)** and then click **Forward** to proceed.

*Choose your disk*



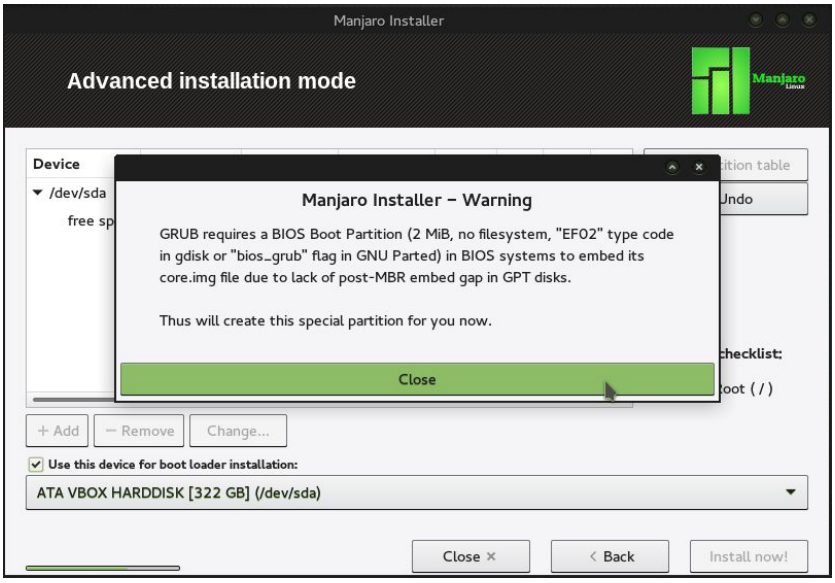

2: If you have more than one hard drive on your computer select the one you want to partition. This example already has a partition layout, but we're going to start fresh by clicking **New partition table**.

*Create a partition table*



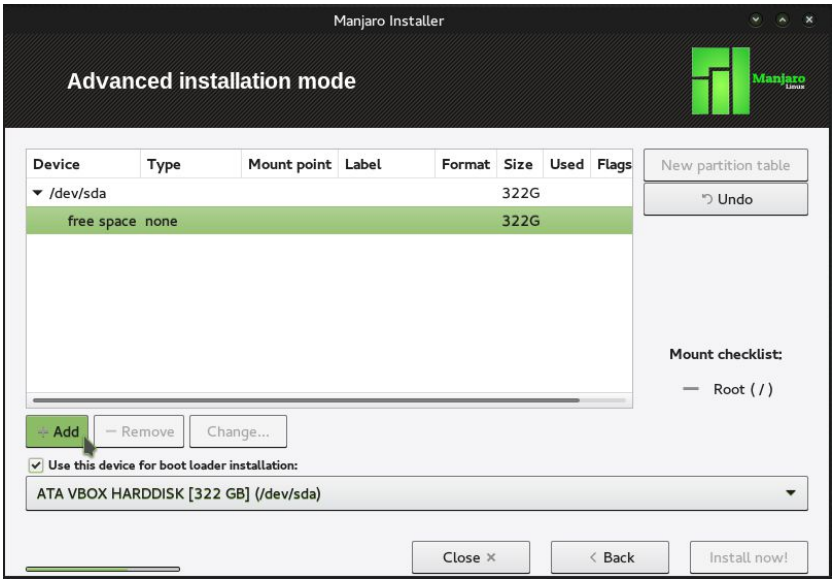

3: The partition table type you chose will normally depend on your system. Non-EFI systems are normally best with MBR, whereas EFI systems should use GPT. Once you're happy, click **OK** to create the partition table.

*GPT on a non-EFI system*


Manjaro Installer
Advanced installation mode
Device
/dev/sda
Undo
Manjaro Installer – Warning
GRUB requires a BIOS Boot Partition (2 MiB, no filesystem, "EF02" type code in gdisk or "bios_grub" flag in GNU Parted) in BIOS systems to embed its core.img file due to lack of post-MBR embed gap in GPT disks.
Thus will create this special partition for you now.
Close
Add
Remove
Change...
Use this device for boot loader installation:
ATA VBOX HARDDISK [322 GB] (/dev/sda)
Close
Back
Install now!

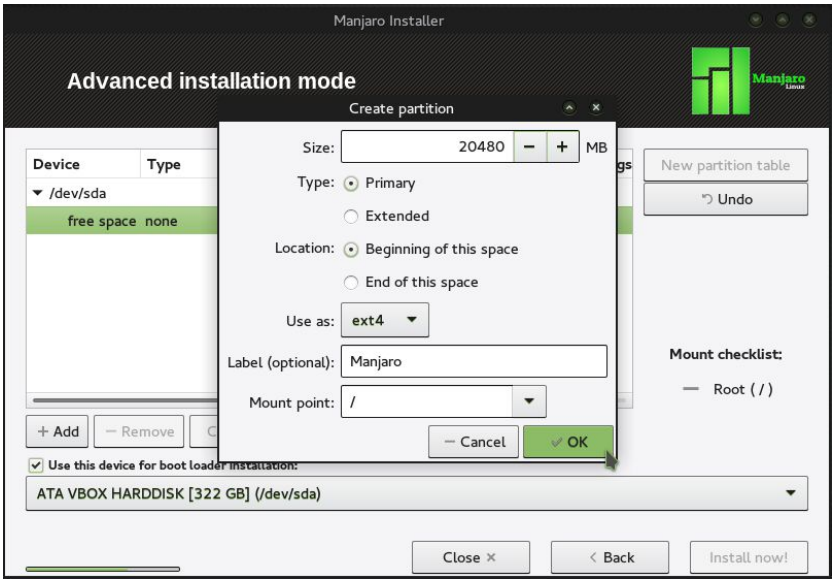
4: You will get a warning if you create a GPT partition table on a non-EFI system. You can still proceed if you want, but be aware of the extra partition. Don't delete it!

*A two-partition scenario*



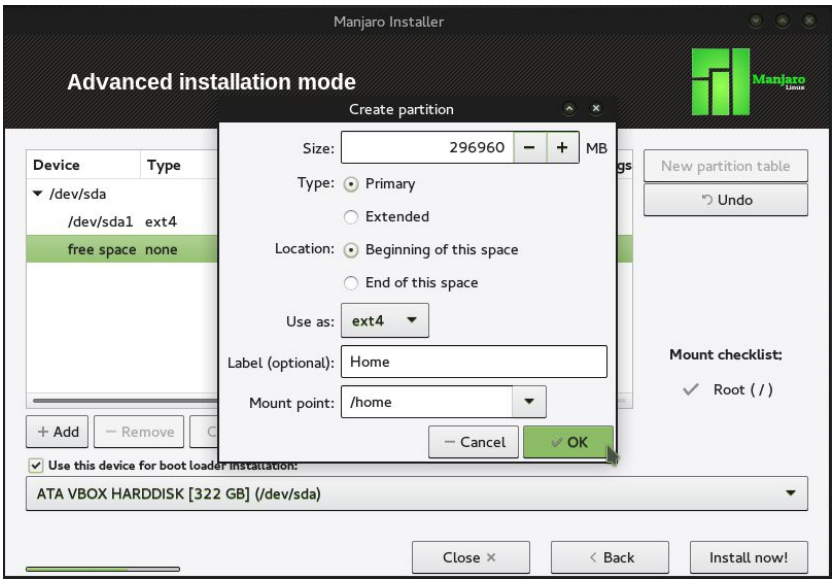

5: In this scenario we will cover the most common partition layout. Root and Boot files will be in a single partition and Home in a second partition to keep documents separate from system files. We'll add an optional swap partition in the remaining space. As there are only three partitions total, each can be Primary partitions. With the free space highlighted, we'll click **+Add** to create the first partition.

*Partition 1: Root and Boot*



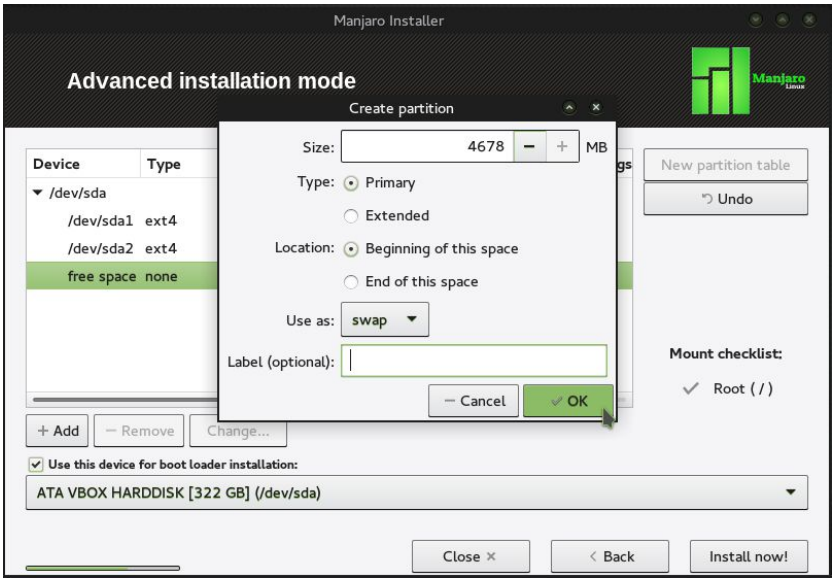

6: The first partition will contain the system and boot files (**/** and **/boot**). As such, we must allocate enough space for all system programs. 20GB is generally sufficient, but if you have a smaller disc you can reduce this. We have selected EXT4 as the file system and made sure to set the mountpoint to **/** (root).

*Partition 2: Home*



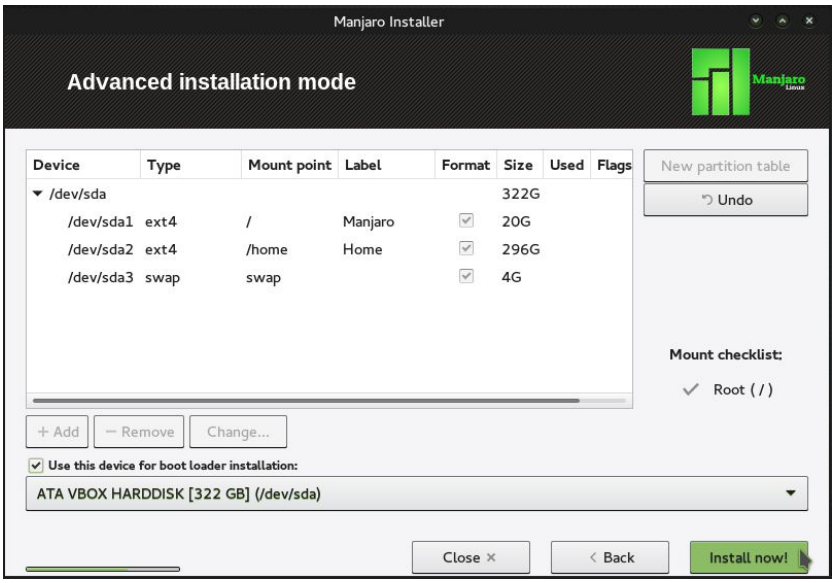

7: We've added a second partition to hold our user documents. It's set to be 295GB in size, with the EXT4 file system, and the mountpoint is set to **/home** (Home).

*Swap partition*



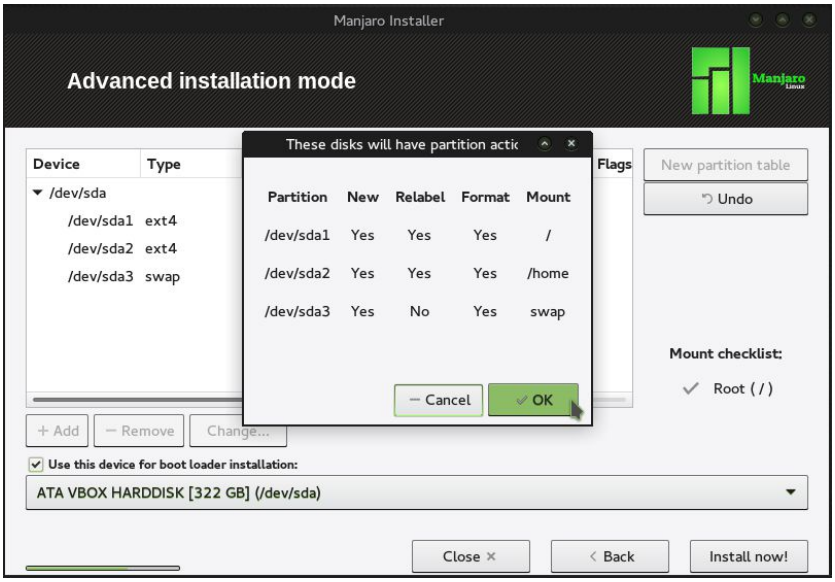

8: Finally, we've added a swap partition. This will act as extra (very, very slow) RAM if we run out. It's not really suitable as anything other than a last resort but can sometimes make the difference between losing work and quitting cleanly. This is set to take the remainder of the free space, about 4GB.

*Finalising the partitions*




9: The partition layout is ready, but before continuing it's worth checking over. You can change and adapt the layout freely at this point as nothing has been written to disc.
Once you are happy, click **Install now!** to proceed.

*Verify partitioning actions*




10: As a final check, the installer will ask you to verify that you want to write the partition layout to disc. If you want to go back and make a change, click **Cancel**. Otherwise to continue to install Manjaro, click **OK**. The rest of the process is the same as for the Automatic installer, so we're done here!

# *Installing on a UEFI system*

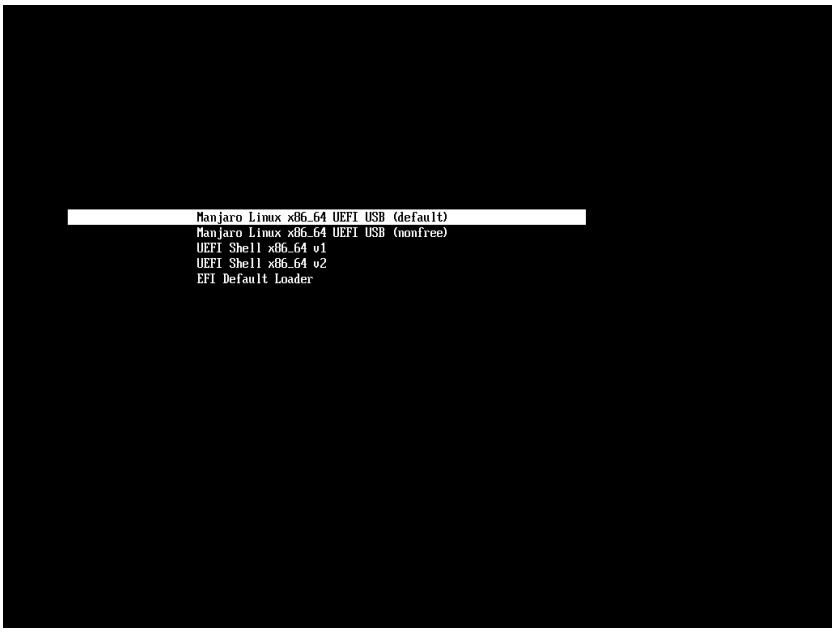
> UEFI is the commonly agreed on name for both the EFI & UEFI standards which merged. It does not include the old EFI v1, or Apple's own non-standard version of EFI.

If you have a relatively new computer (e.g. post-2012) it will probably have UEFI support; it certainly will if it came with Microsoft Windows 8 or later installed. At this point in time, installing a Linux distribution on a UEFI system can be tricky. Thankfully Manjaro's installer, Thus, does a good job of correctly setting up everything. However, there are still important considerations, especially when it comes to the partitioning table.

## *Booting in UEFI mode*

**The most important step is to ensure that your machine does not have Secure Boot enabled**. Only a very limited number of operating systems will boot with this enabled. You must disable this in your BIOS before proceeding; if you don't know how to do this please refer to your computer's user manual.

Once you have booted the system from the Live CD/USB you will be presented with the Manjaro boot selection screen. It has two main options for the drivers it will use (either Free or non-Free). The main difference is the lack of any option for language or keyboard layout. However, this is actually not that important! When you run Thus and choose your language and keyboard layout this will take effect within the Live environment, along with setting these for the installed system.

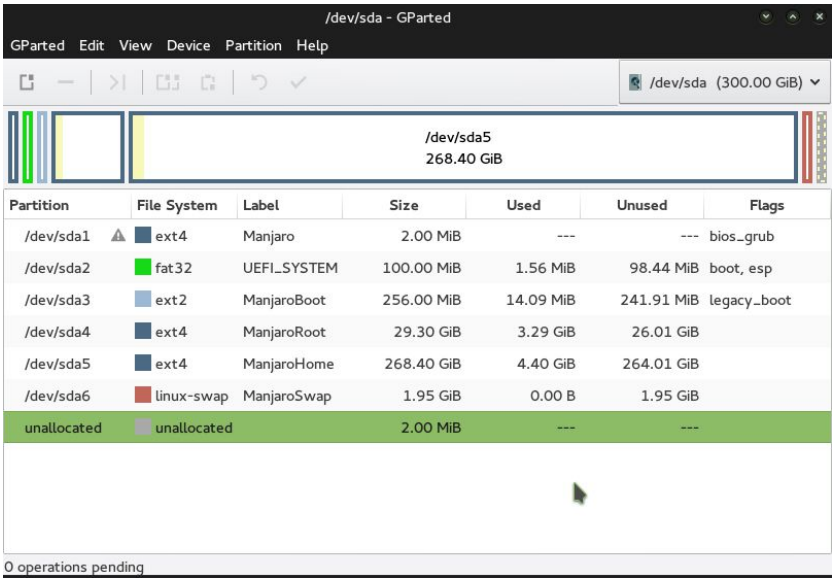

Manjaro Linux x86_64 UEFI USB (default)
Manjaro Linux x86_64 UEFI USB (nonfree)
UEFI Shell x86_64 v1
UEFI Shell x86_64 v2
EFI Default Loader

1: In UEFI mode the Manjaro boot selection screen looks quite different. However, the two main installation options are still there.

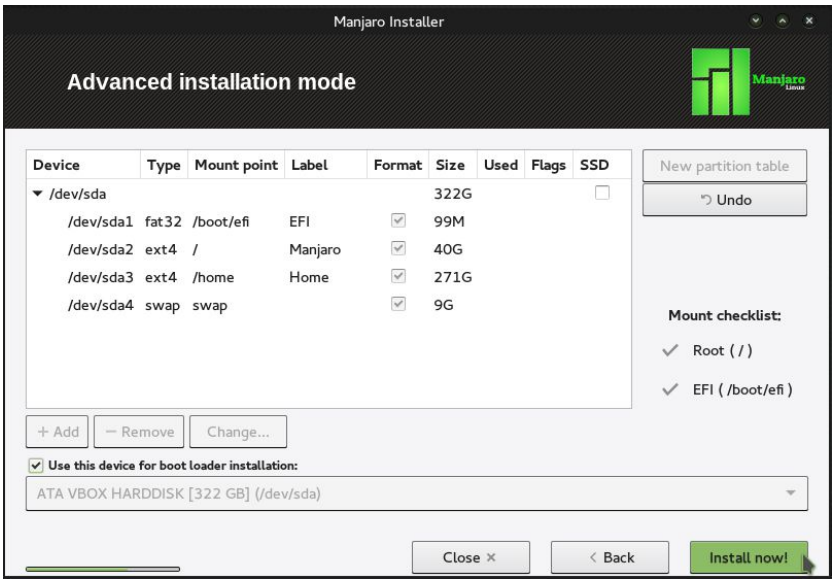
### *Installing Manjaro as the only operating system*

With Manjaro 0.8.11, Thus does an excellent job setting up your system. Once you have loaded the Live environment the installation steps are exactly the same as for a non-UEFI installation. The main difference is in the partition layout: this is important if you wish to manually partition the drive to suit your own requirements.

In automatic mode, Thus creates a conservative partition layout that will work on all systems. However, the key extra partition for compatibility with UEFI systems is a fat32-formatted partition mounted at `/boot/efi` - make sure to include this if you partition manually!


/dev/sda - GParted
GParted Edit View Device Partition Help
/dev/sda (300.00 GiB)
/dev/sda5
268.40 GiB
Partition File System Label Size Used Unused Flags
/dev/sda1 ext4 Manjaro 2.00 MiB --- --- bios_grub
/dev/sda2 fat32 UEFI_SYSTEM 100.00 MiB 1.56 MiB 98.44 MiB boot, esp
/dev/sda3 ext2 ManjaroBoot 256.00 MiB 14.09 MiB 241.91 MiB legacy_boot
/dev/sda4 ext4 ManjaroRoot 29.30 GiB 3.29 GiB 26.01 GiB
/dev/sda5 ext4 ManjaroHome 268.40 GiB 4.40 GiB 264.01 GiB
/dev/sda6 linux-swap ManjaroSwap 1.95 GiB 0.00 B 1.95 GiB
unallocated unallocated 2.00 MiB --- ---
0 operations pending

1: The partition layout created by Thus in automatic mode (with separate Home).




2: A manual partition layout. Note the lack of a GRUB BIOS partition; this is not necessary with a GPT partition layout under EFI.

### *Installing alongside Microsoft Windows 8 or later*

It is possible that you want install Manjaro but keep an existing Windows 8 installation on your computer. This is possible, but a little more complicated to set up. It's not for the faint-of-heart, and you should make sure you have a backup of any important documents or information before proceeding.

The following instructions assume you are using a machine with UEFI enabled, Secure Boot disabled, and are using drives with a GUID Partition Table (GPT).

#### *Download the installation media*

First, make sure you have downloaded a 64-bit version of Manjaro. It doesn't matter which edition you choose, but the filename must end with **x86_64.iso**.

Next, create the Live media by burning the disc image to a DVD or writing to a USB flash drive. The process is very similar to a non-UEFI installation, but for Windows users using USB media, Rufus[10] is highly recommended. Rufus should use the following settings:

*Device:* "choose your USB" (Attention: choose correctly, the device selected here will be formatted!)

*Partition scheme:* GPT partition scheme for UEFI computer

*File system:* FAT32 (Default)

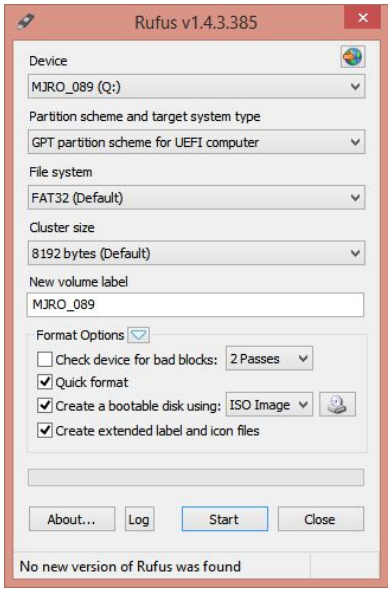
*Cluster size:* 8192 bytes (Default)

*Volume label:* MJRO_0811

*Format Options:* Quick format. Create a bootable disk using: ISO Image (Click on the DVD icon to select your downloaded disc image). Create extended label and icon files.

Click **Start**, and you are done! (though it takes between around two and five minutes to complete).

[10] `http://rufus.akeo.ie/`




1: Rufus with recommended settings

#### *Boot the Live environment*

Before booting, check your BIOS settings: UEFI must be **on** and Secure Boot **off**. Manjaro currently doesn't support Secure Boot.

Boot with your Live media and select which set of drivers you would like to use:

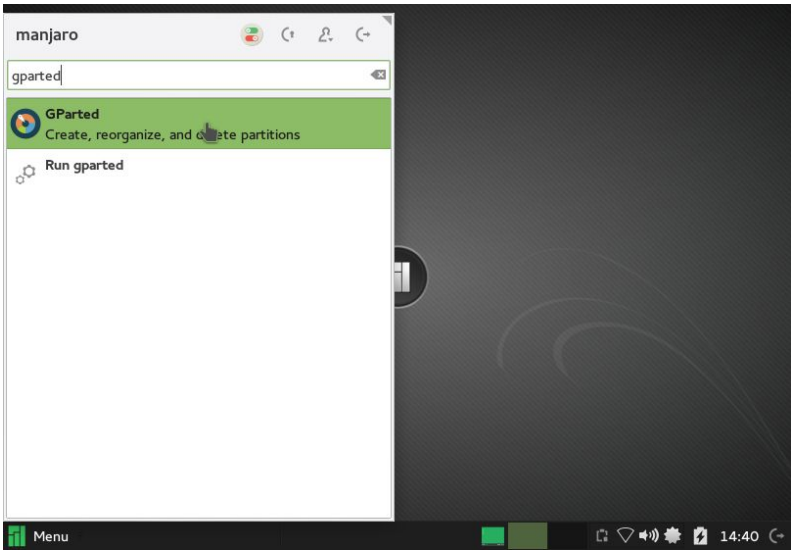
*Boot Manjaro Linux ... (default)* This chooses the open-source graphics card drivers.

*Boot Manjaro Linux ... (nonfree)* This option chooses the proprietary graphics card drivers from Nvidia or AMD.

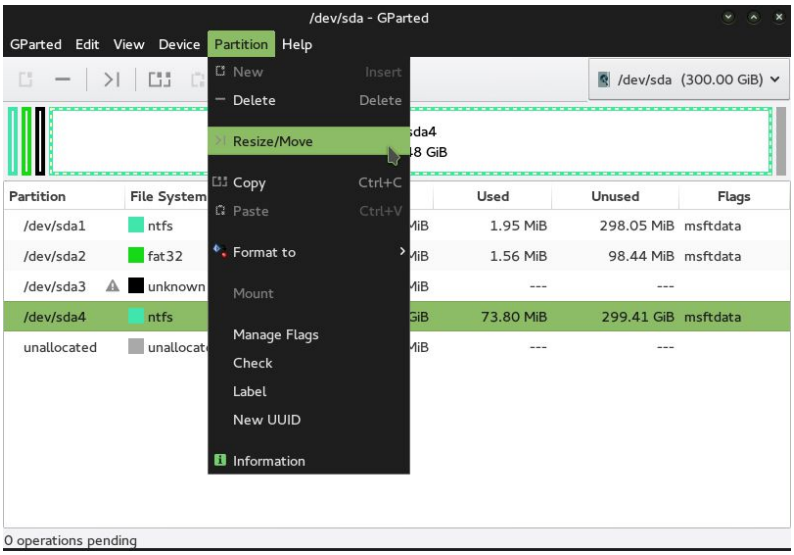
If you're not sure which to use, refer back to the earlier section **Booting the Live environment**.

### *Adjust your partition sizes*

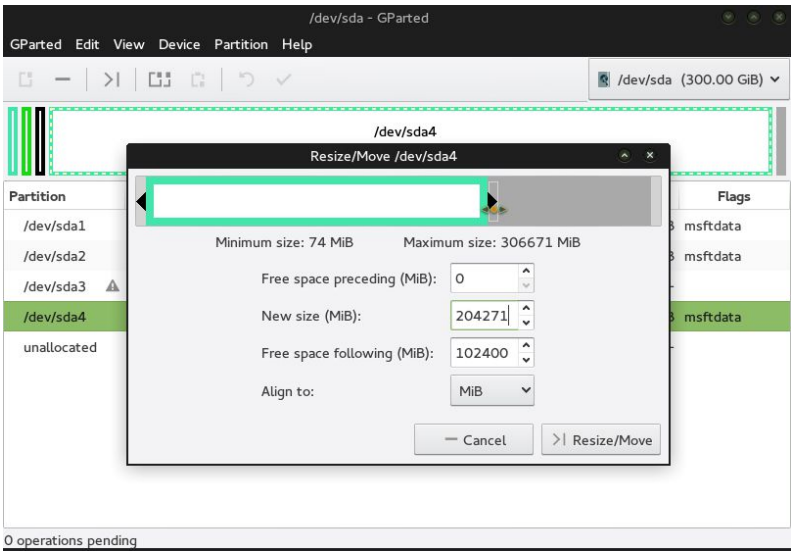
Your computer will be set up with no free space into which Manjaro can be installed. As such, you need to shrink the main Microsoft Windows partition to make space! To do this, we will use GParted, the GNOME Partition Editor.




2: Start **GParted** from the applications menu. The 'root' password is '**manjaro**' (without quotes).




3: Right click on the largest NTFS partition and select **Resize/Move**

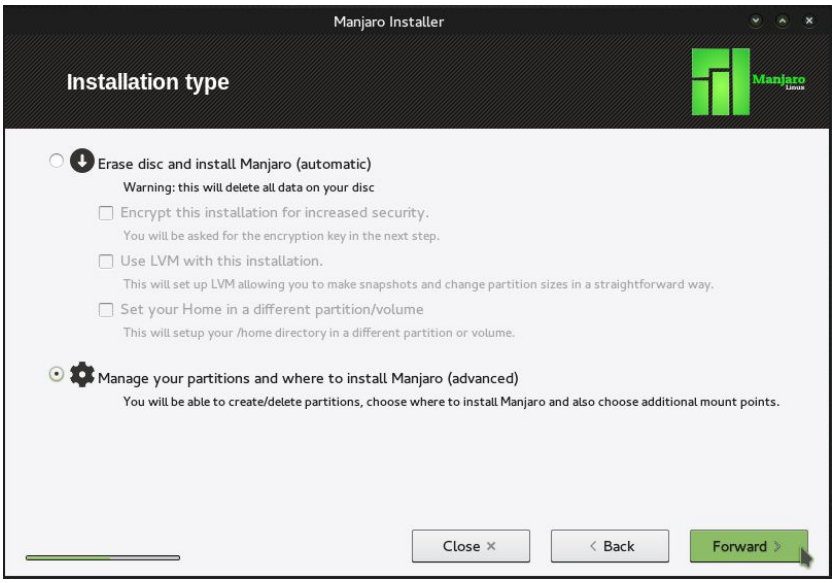



4: Make space at the end of the partition for Manjaro. Ideally this should be at least 50GB, but you can't shrink the partition smaller than its used space (minimum size). When you're happy with the new size, click **Resize/Move**.

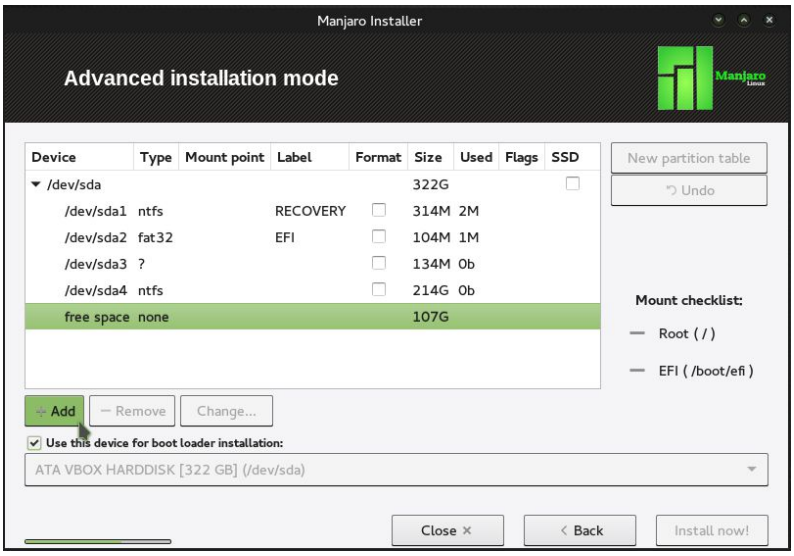
Once you are happy with the new partition layout, on the menu go to **Edit**, **Apply all operations**. There will be a confirmation message; to continue you must click **Apply**.

The resizing process will take some time. Perhaps another chance to get a cup of tea! Once it has completed, close GParted and then run **Install Manjaro Linux**.

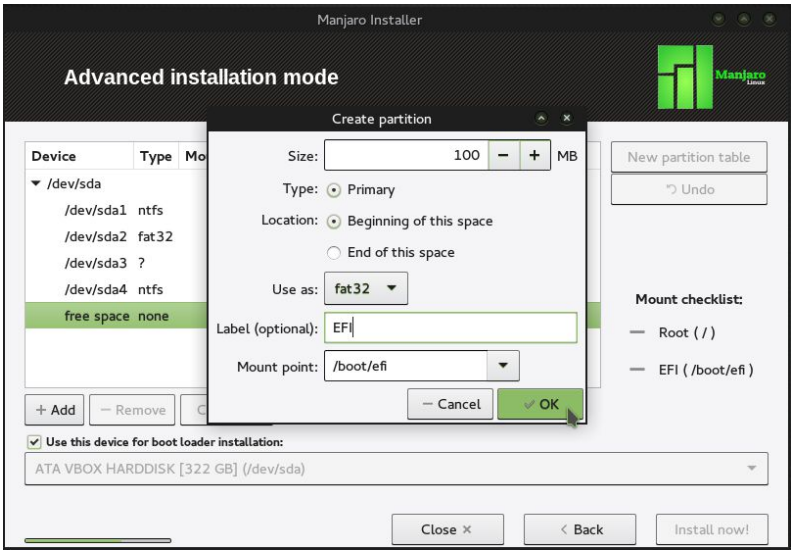
*Start the advanced installation process*


Manjaro Installer
Installation type
Erase disc and install Manjaro (automatic)
Warning: this will delete all data on your disc
Encrypt this installation for increased security.
You will be asked for the encryption key in the next step.
Use LVM with this installation.
This will set up LVM allowing you to make snapshots and change partition sizes in a straightforward way.
Set your Home in a different partition/volume
This will setup your /home directory in a different partition or volume.
Manage your partitions and where to install Manjaro (advanced)
You will be able to create/delete partitions, choose where to install Manjaro and also choose additional mount points.
Close
Back
Forward

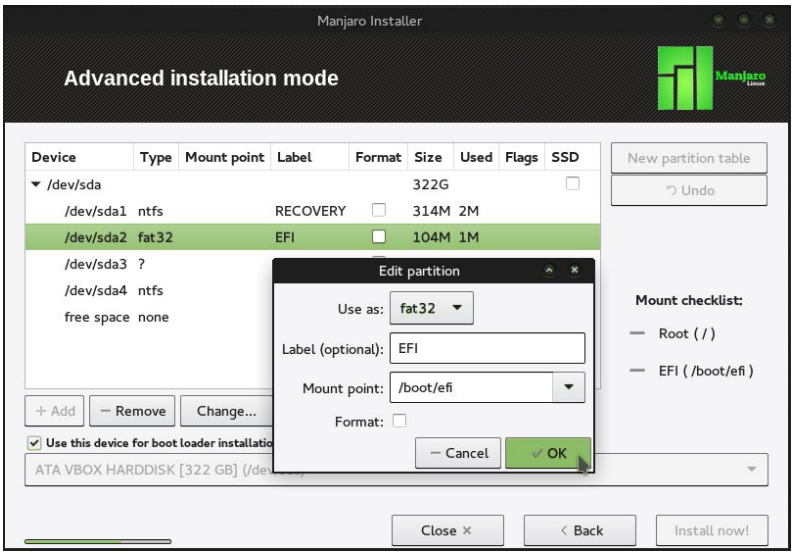
5: When you reach the sixth step of the installation process, select **Manage your partitions and where to install Manjaro (advanced)** and then click **Forward** to proceed.



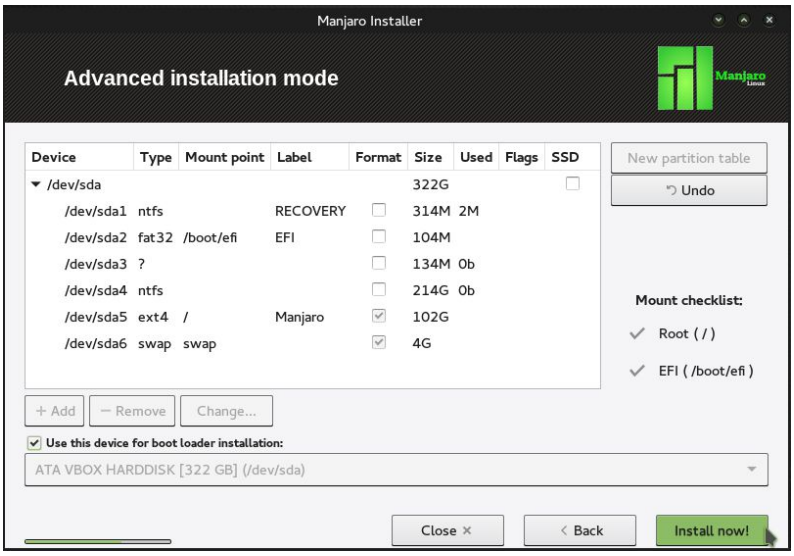

6: On the partitioning screen you can see the 100GB of free space we just created. Note the 100MB fat32 partition: this is the EFI boot partition needed by Windows. At this point you have two choices.




7: Firstly, you can create another, new, EFI partition just for Manjaro. This means everything is kept separate to Windows.
A partition of 100MB should be enough, but the mountpoint **must** be `/boot/efi` and the partition type **fat32**.




8: Otherwise, you can reuse the EFI partition created by Windows. This is normally quite safe to do.
Select the mountpoint `/boot/efi` but make sure you **do not** format the partition - or you won't be able to boot Windows!




9: Create the rest of partitions as normal. You need at least a root partition (mountpoint /). Click **Install now!**, confirm the changes, and proceed with the rest of the installation process!

*Update the GRUB bootloader, or, Where did Windows go?*

Sometimes the bootloader GRUB2 doesn't detect an existing Microsoft Windows installation when installing. This means that only Manjaro Linux will appear in the list of options when you boot the machine.

This is easy to solve. Run the command:

```
sudo update-grub
```

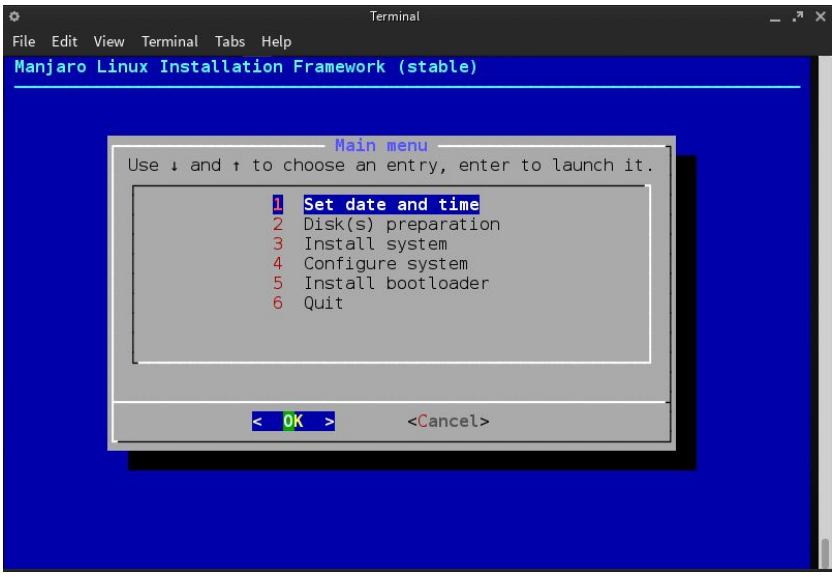
in a terminal after booting into Manjaro and it will detect Windows and add an entry to the boot menu.

# *Advanced installation methods*

## *The text-based installer*

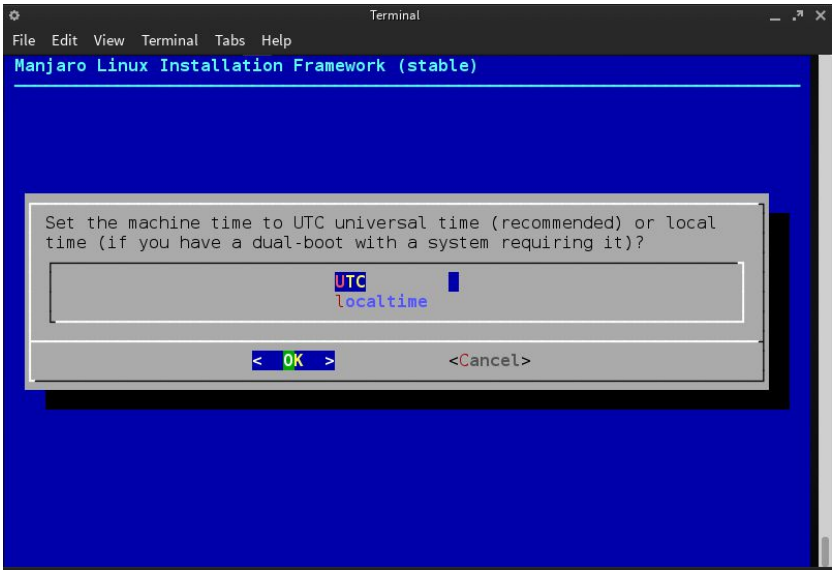
The Manjaro Live environment provides two installation tools: along with the graphical installer a text-based CLI installer is available. This is suitable for advanced users who need extra control over the installation process, for example if they want to set up RAID or alter system configuration options. It's also useful for very old machines and is the only installation method available for the Net edition.

**The text-based installer is only recommended for advanced users.**


Terminal
File Edit View Terminal Tabs Help
Manjaro Linux Installation Framework (stable)
Main menu
Use ↓ and ↑ to choose an entry, enter to launch it.
1 Set date and time
2 Disk(s) preparation
3 Install system
4 Configure system
5 Install bootloader
6 Quit
< OK >
<Cancel>

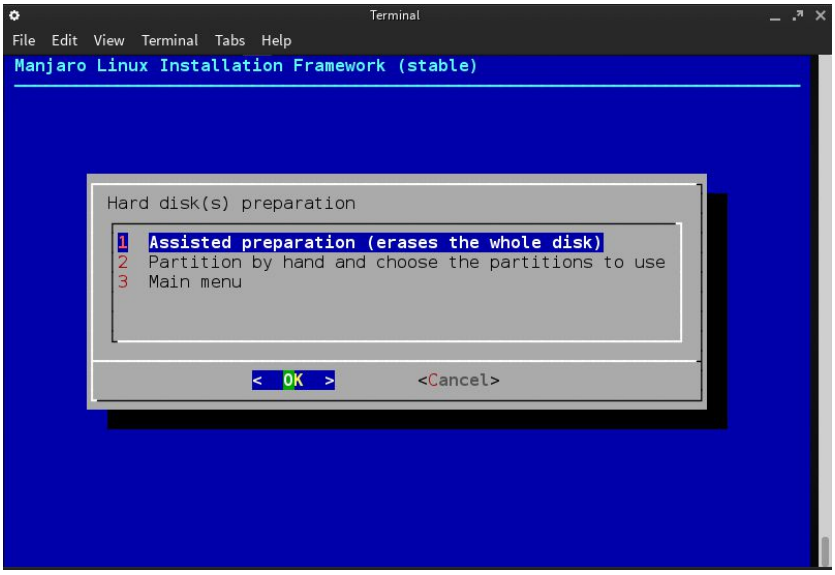
1: The installation process steps are very similar to the graphical installer. However, much more control is available.

*Set date and time*


Terminal
File Edit View Terminal Tabs Help
Manjaro Linux Installation Framework (stable)
Set the machine time to UTC universal time (recommended) or local time (if you have a dual-boot with a system requiring it)?
UTC
localtime
< OK >
<Cancel>

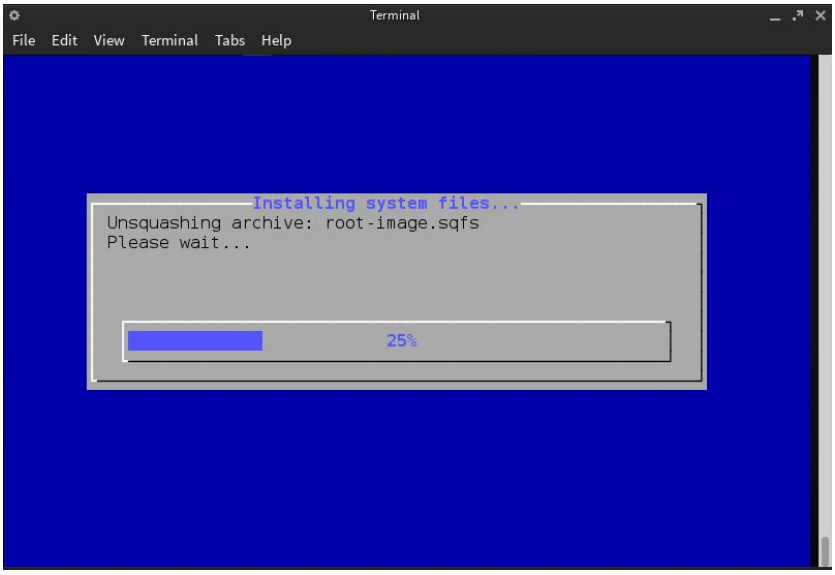
2: The first menu item allows you to manually set your timezone and check the date and time set for your system.

*Hard disk(s) preparation*


Terminal
File Edit View Terminal Tabs Help
Manjaro Linux Installation Framework (stable)
Hard disk(s) preparation
1 Assisted preparation (erases the whole disk)
2 Partition by hand and choose the partitions to use
3 Main menu
< OK >
<Cancel>

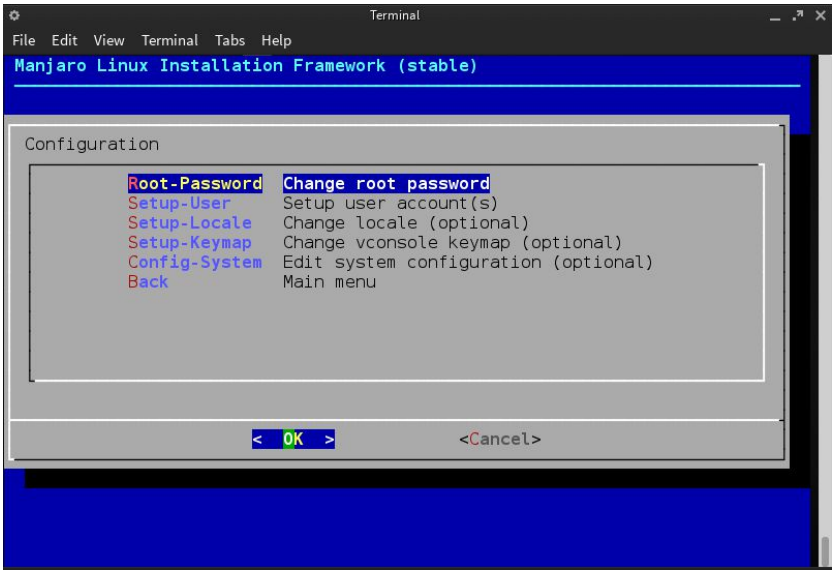
3: The second menu item allows full control over the partition layout.

*Install system*



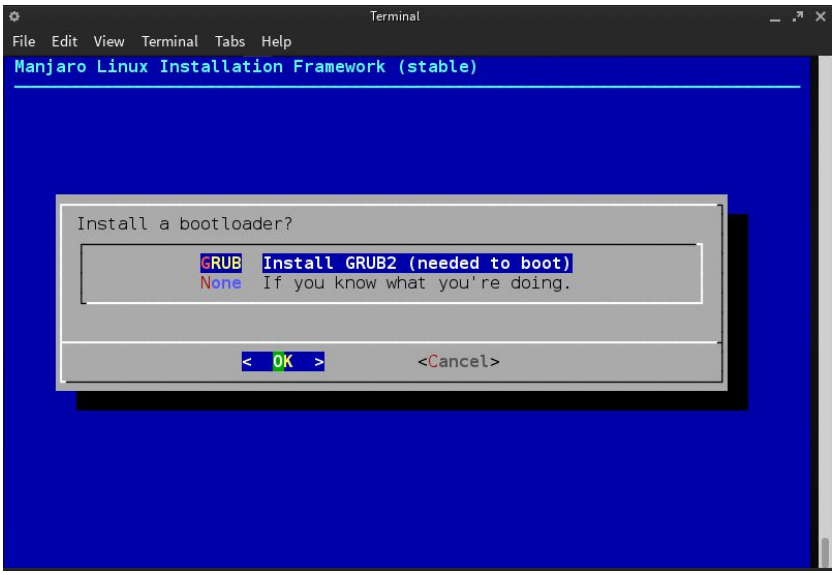

4: The third menu item starts the installation process. You will get no confirmation before the installation begins: make certain that your partition layout is correct otherwise the process will fail. The installation can take a little bit of time, so make a cup of tea!

*Configure system*



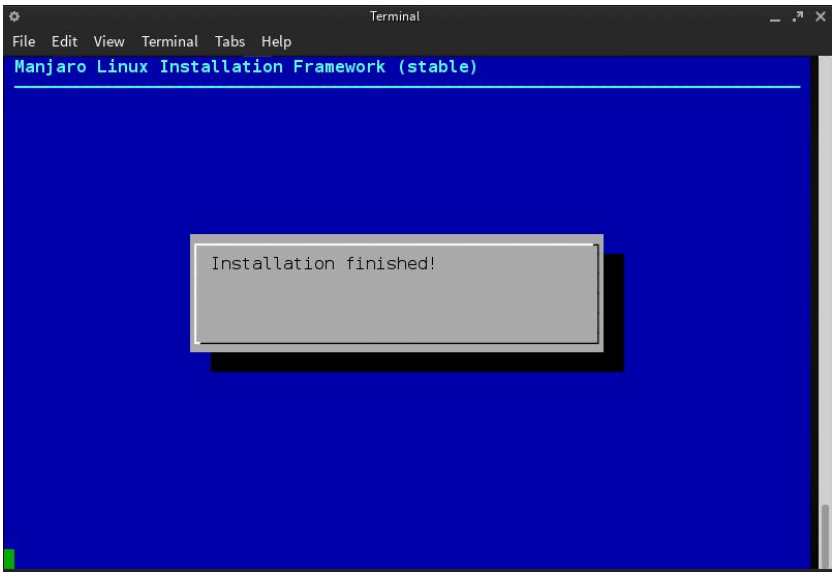

5: The fourth item allows full control of your new system's configuration. The options are quite extensive!

*Install bootloader*


Terminal
File Edit View Terminal Tabs Help
Manjaro Linux Installation Framework (stable)
Install a bootloader?
GRUB Install GRUB2 (needed to boot)
None If you know what you're doing.
< OK >
<Cancel>

6: Before rebooting you must make sure to install the bootloader to the correct drive. Without this, you won't be able to load Manjaro!

*Quit*




7: The final step exits the installer. You can continue using the Live environment or reboot now to use your freshly installed Manjaro.

# Part III

# Welcome to Manjaro

# *The Manjaro desktop*

*Congratulations on installing Manjaro Linux!*

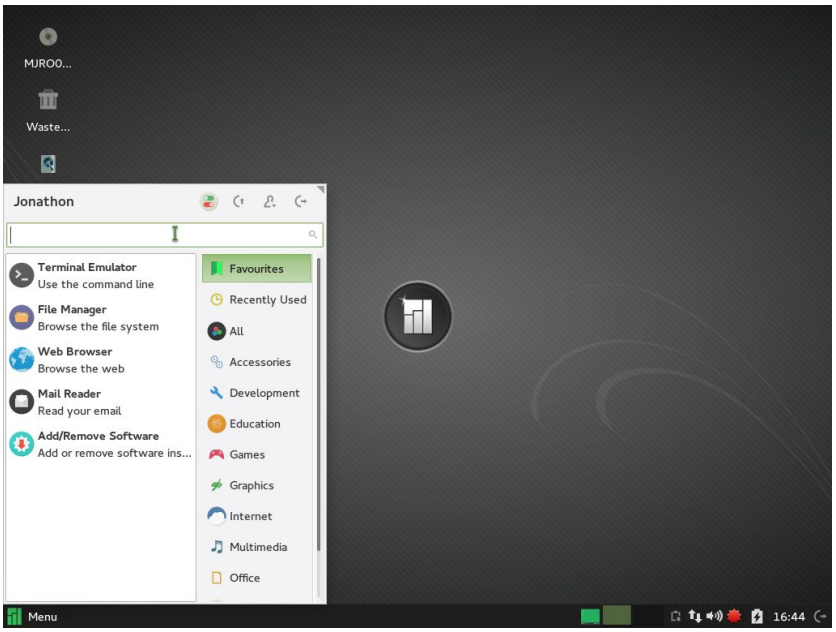
Once you have logged in you will be presented with the Manjaro desktop. The Welcome Screen will load automatically and this gives you some useful links to documentation, ways to get help and support from the Manjaro community, and some ways you can get involved with the project. Remember that Manjaro is free and open-source software: it relies on contributions from its user and developer community!

1: The Manjaro Xfce Desktop with Welcome Screen.

If you don't want the welcome screen to load each time you log in, just untick the box **Show this dialog on startup**. Don't worry: you can always find it again in the applications menu.

The applications menu is the easiest way of starting the software programs that are installed on your Manjaro system. The icon for this is in the corner of the screen. Go ahead and click on it now!

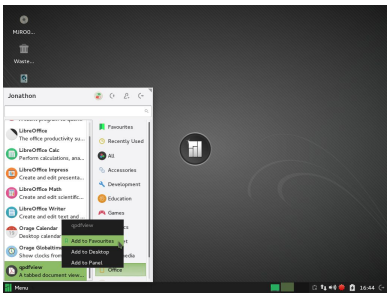
You can also press the "Windows" or "Super" key on your keyboard. Handy!



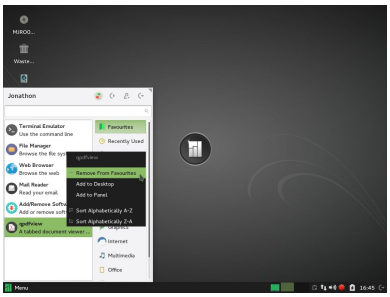

2: Software applications that are installed will be displayed in the applications menu.

You can see that the five main software applications have an item in the "Favourites" menu. This allows rapid access to software you most often use. To add or remove an item from the Favourites menu, just right-click on it and select the option you want.

For now, let's look in turn at these five applications to give an idea of what awaits you!

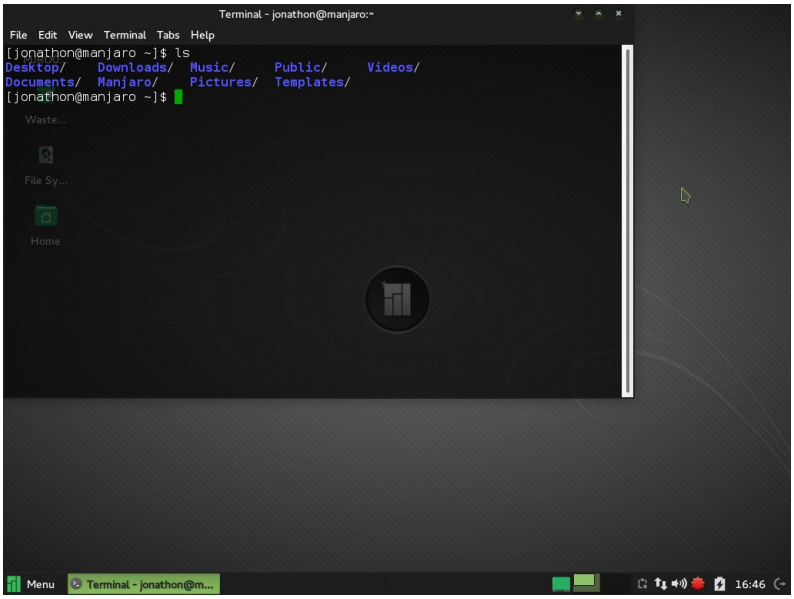


3: Add to Favourites



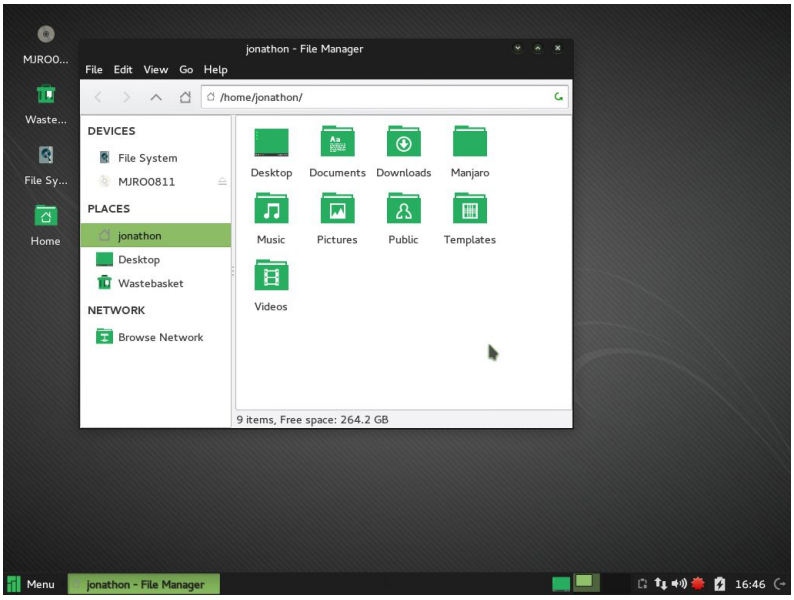
4: Remove from Favourites

## *Terminal Emulator*



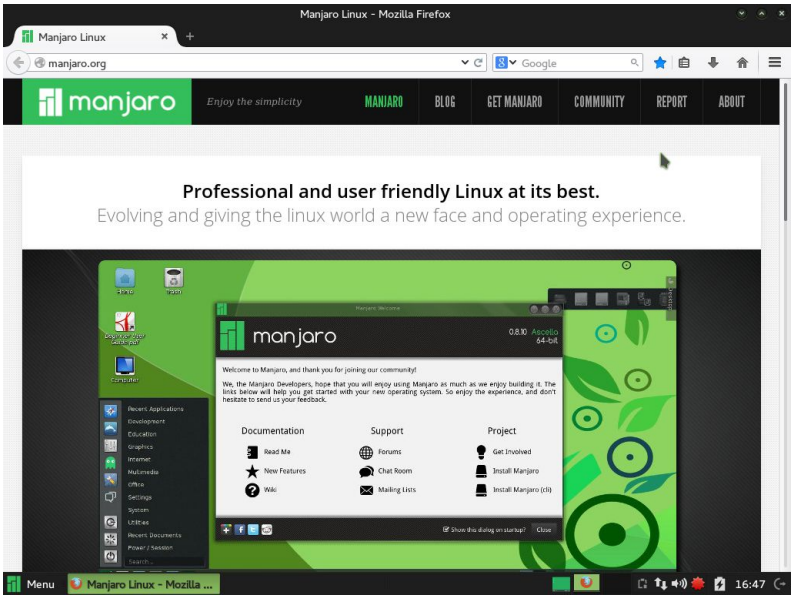

5: **Terminal Emulator**, or terminal, allows you to perform text-based commands. Although it initially seems unfriendly it is incredibly powerful and allows access to commands that are difficult to accomplish with a graphical interface. In this example, I have listed (`ls`) the files in my home directory.
Learning how to use the terminal is not needed for running Manjaro. It's highly recommended, however; check out sites like `http://linuxcommand.org/` !

## *File Manager*



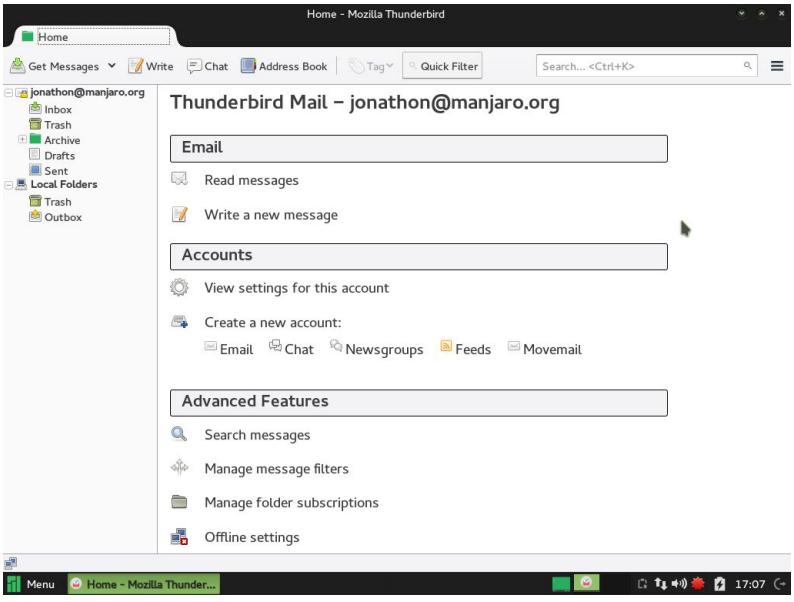

6: **File Manager** is a graphical interface for managing your documents and directories. Most file managers work in a similar way; if you've used another, you can probably use this one! Hint: you can find this user guide in the Manjaro directory!

## *Web Browser*



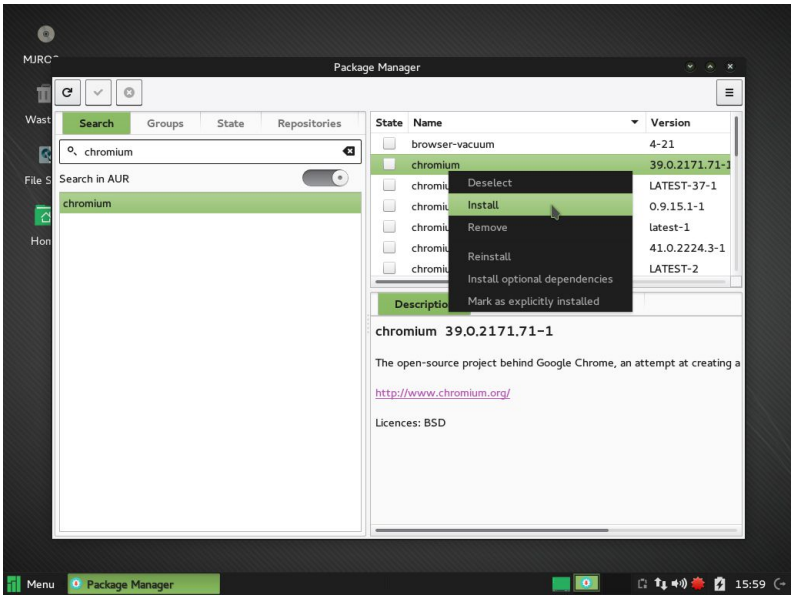

7: **Web Browser** allows you to visit and view web pages so you can read news stories, check the weather forecast, and all the rest. The software application that is installed will depend on the Edition of Manjaro you installed, but they all work in a similar way. If you have a particular preference you can easily add or remove software.

## *Mail Reader*




8: **Mail Reader** allows you to read and send email. You will have to add your email account when you first run the application (in a similar way to all mail readers) but once that is set up you should be good to go! As with the web browser, there are a range of choices for mail reader. For example, if you prefer Claws or Sylpheed you can install it!

*Add/Remove Software*




9: The **Package Manager** allows you to search for, install, and remove software applications. In this example I have searched for the Chromium web browser, and am about to install it. Once I'm happy with my selections I can click on the tick to continue.

There are two main software managers in Manjaro: **Pamac** (installed with the Xfce edition) and **Octopi** (installed with the KDE edition).

# *Getting help*

There are a variety of ways of getting help and support about Manjaro, as well as finding out more about the project. You can just browse, or register if you want to get involved!

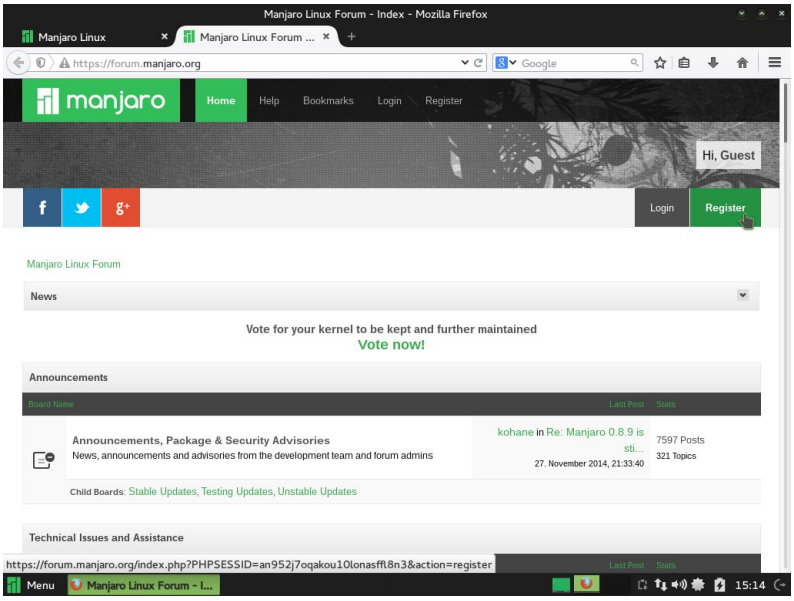
Remember that Manjaro is run by its community. Without a community there would be no Manjaro!

*Whichever method you use, we look forward to meeting you!*

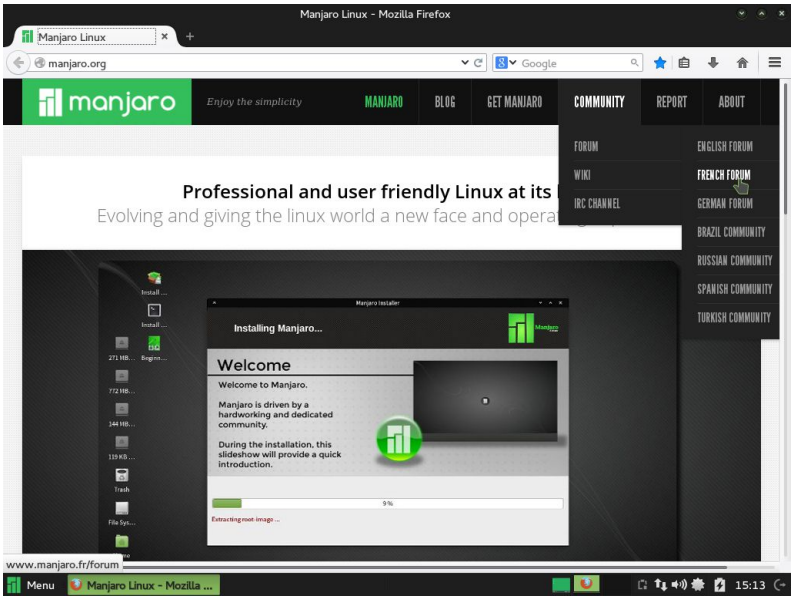
1: The welcome screen has links to some excellent resources. It's well worth taking the time to have a look at each of them.

*Discussion forum*

`http://forum.manjaro.org/`



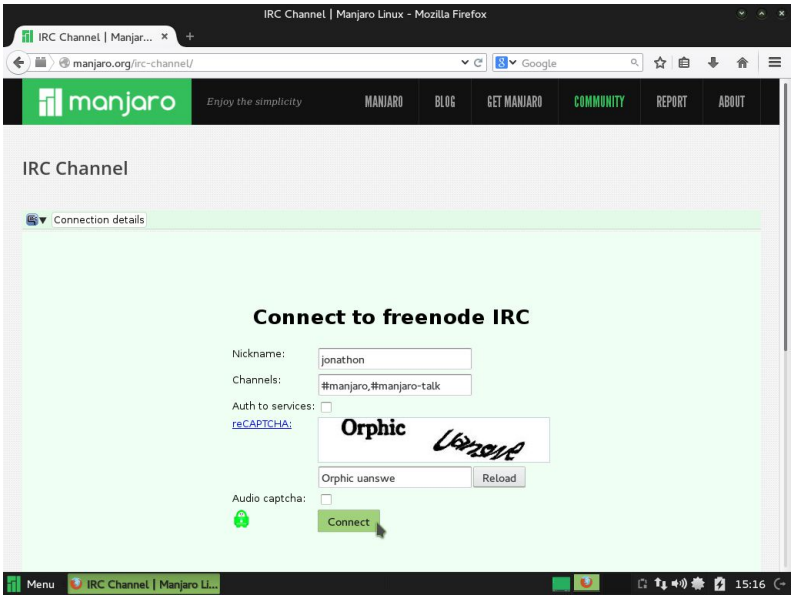

2: The Manjaro discussion forum is a great place to find out more about the project. You can connect at any time, leave questions or replies, and come back to them later.



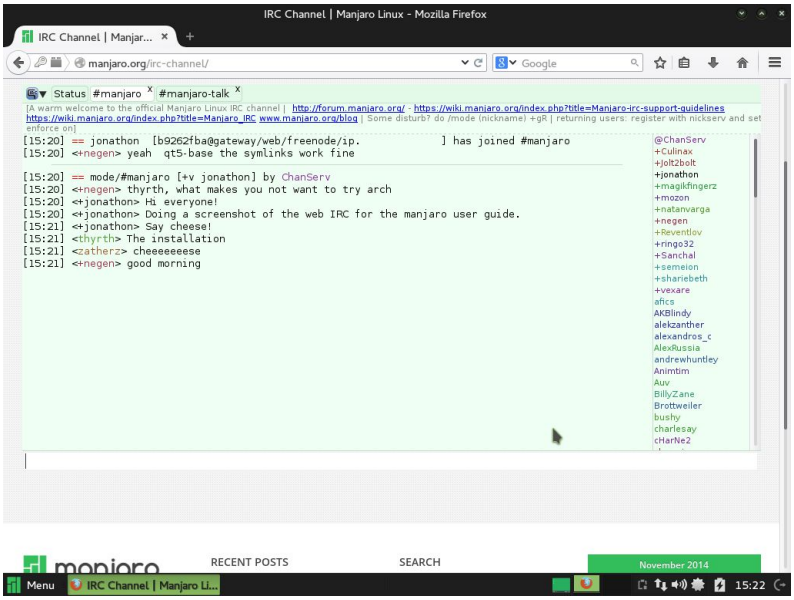

3: If English isn't your preferred language you can try one of the other forums. There's an up-to-date list on the Manjaro homepage.

*IRC channels*

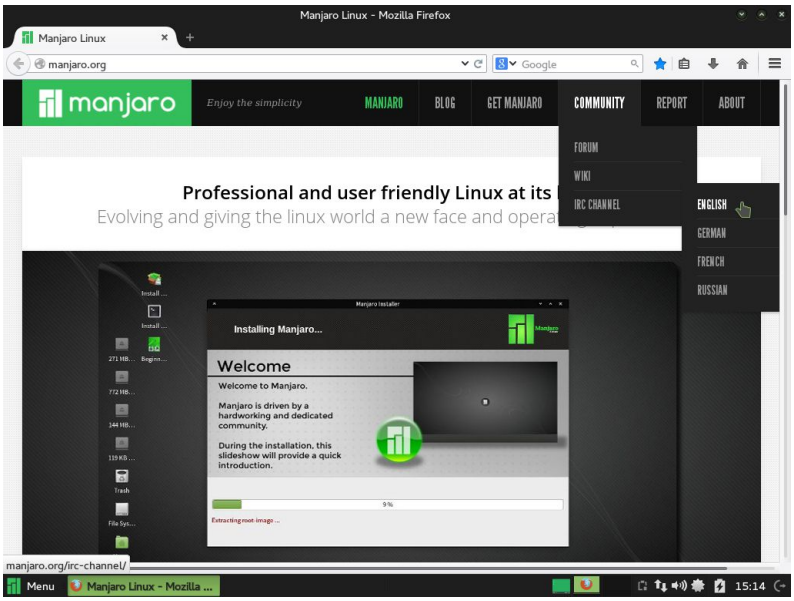
`http://manjaro.org/irc-channel/`




4: To talk on the IRC channel you will have to connect first. To make sure you're human you'll have to fill in a CAPTCHA form.



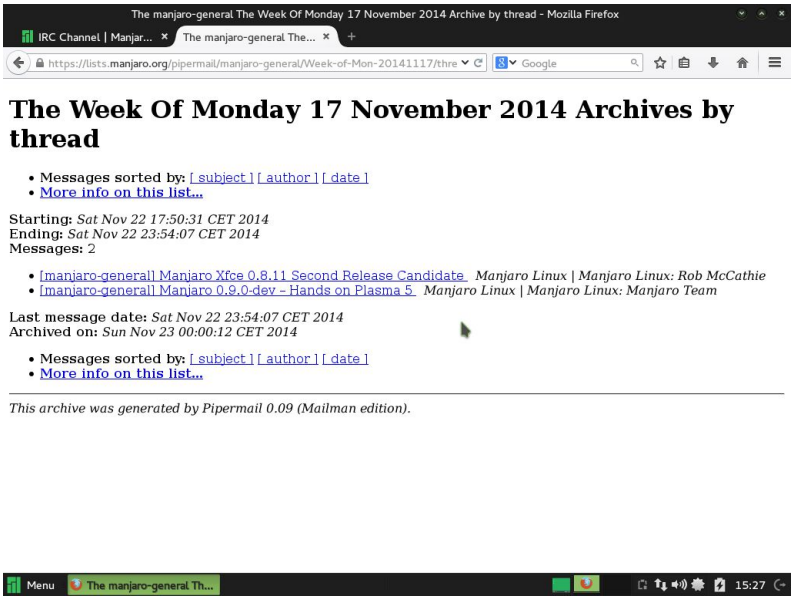

5: Once connected you'll be able to talk in real-time with people who can help. They are a really friendly bunch!




6: If English isn't your preferred language, don't worry. There are four IRC channels dedicated to English, German, French, and Russian language discussion.

*Mailing list*

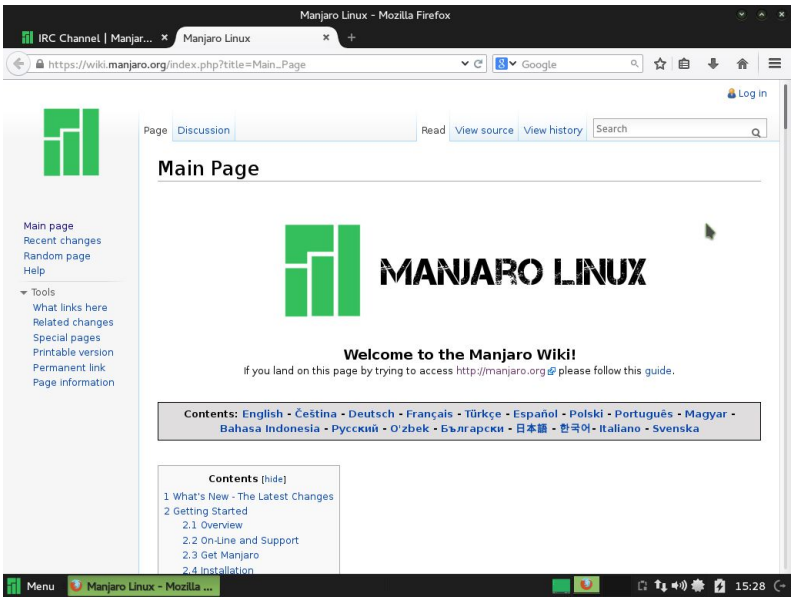
`http://lists.manjaro.org/listinfo/manjaro-general`


The manjaro-general The Week Of Monday 17 November 2014 Archive by thread - Mozilla Firefox
IRC Channel | Manjar...
The manjaro-general The...
https://lists.manjaro.org/pipermail/manjaro-general/Week-of-Mon-20141117/thre
Google
The Week Of Monday 17 November 2014 Archives by thread
Messages sorted by: [ subject ] [ author ] [ date ]
More info on this list...
Starting: Sat Nov 22 17:50:31 CET 2014
Ending: Sat Nov 22 23:54:07 CET 2014
Messages: 2
[manjaro-general] Manjaro Xfce 0.8.11 Second Release Candidate Manjaro Linux | Manjaro Linux: Rob McCathie
[manjaro-general] Manjaro 0.9.0-dev – Hands on Plasma 5 Manjaro Linux | Manjaro Linux: Manjaro Team
Last message date: Sat Nov 22 23:54:07 CET 2014
Archived on: Sun Nov 23 00:00:12 CET 2014
Messages sorted by: [ subject ] [ author ] [ date ]
More info on this list...
This archive was generated by Pipermail 0.09 (Mailman edition).
Menu
The manjaro-general Th...
15:27

7: If you prefer to use email there are several mailing lists that you can use to stay up-to-date with announcements and development, as well as ask questions. At the moment, though, most people use either the forums or IRC. Maybe it will be you who gets people using the mailing lists!

*Wiki*

`http://wiki.manjaro.org/index.php?title=Main_Page`



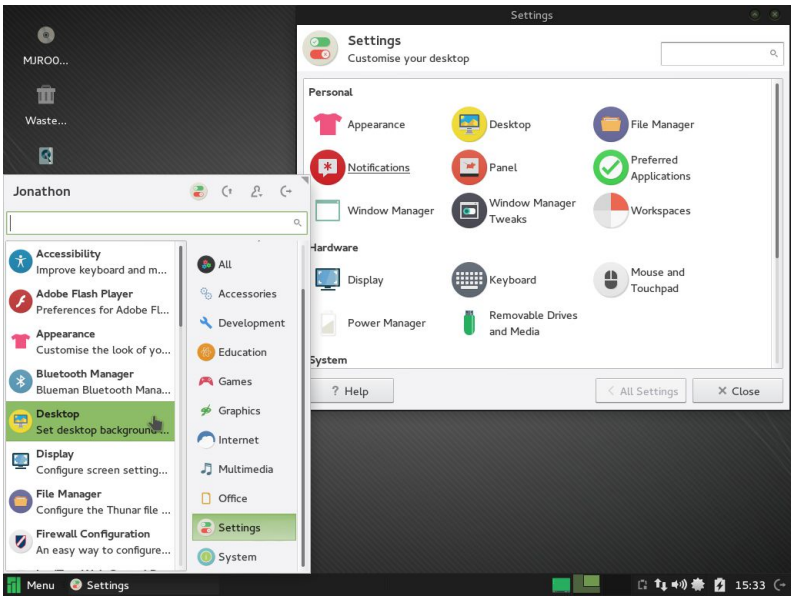

8: The wiki is essentially an online user manual. It has a huge range of information, hints, tips, and instructions on getting the most out of your Manjaro system. If you need to know how to do something, chances are it's on the wiki!

# *Maintaining your system*

## *Changing settings*

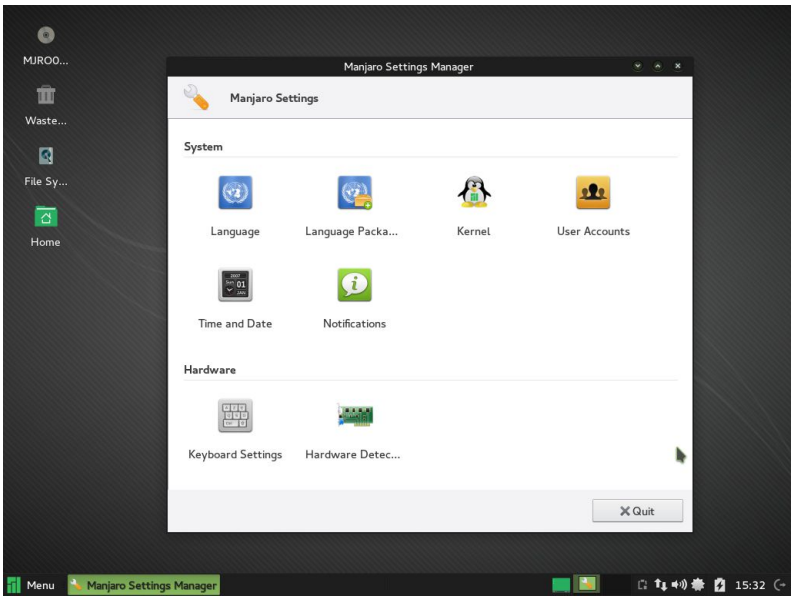
While the Manjaro desktop comes with a set of defaults that should work well for most people, you might want to change things like the desktop wallpaper and colour scheme, or perhaps how your laptop touchpad behaves.

### *Xfce settings manager*




1: The Xfce desktop is highly customisable. The settings for your user account can be accessed both via the applications menu and the Xfce settings manager. Either way, there's a lot of tweaking you can do! Don't worry: the changes will only affect your user account, not any others you might have added.

*Manjaro Settings Manager*



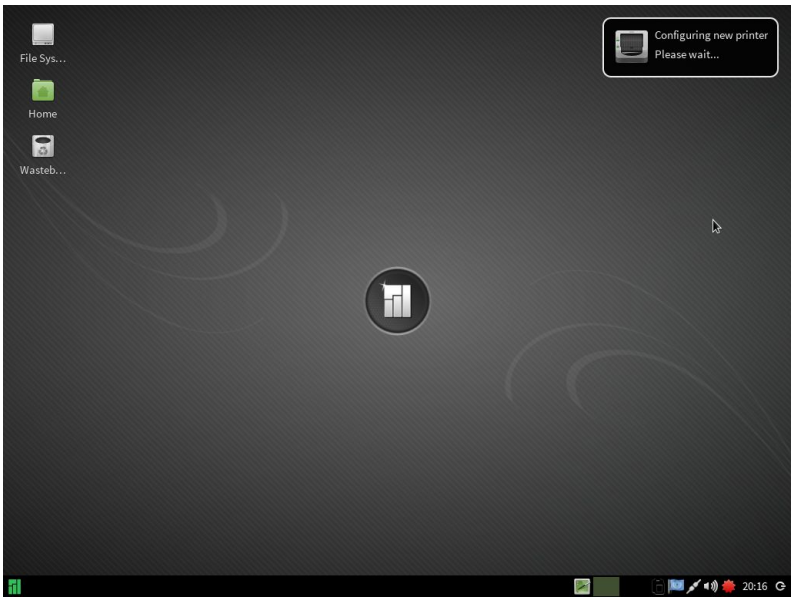

2: The **Manjaro Settings Manager** provides a set of tools for changing lower-level settings, such as those you set during installation. System-wide languages, keyboard layouts, users, and hardware drivers are all taken care of from here. It is available under **Settings** in the applications menu.

## *Adding a printer*

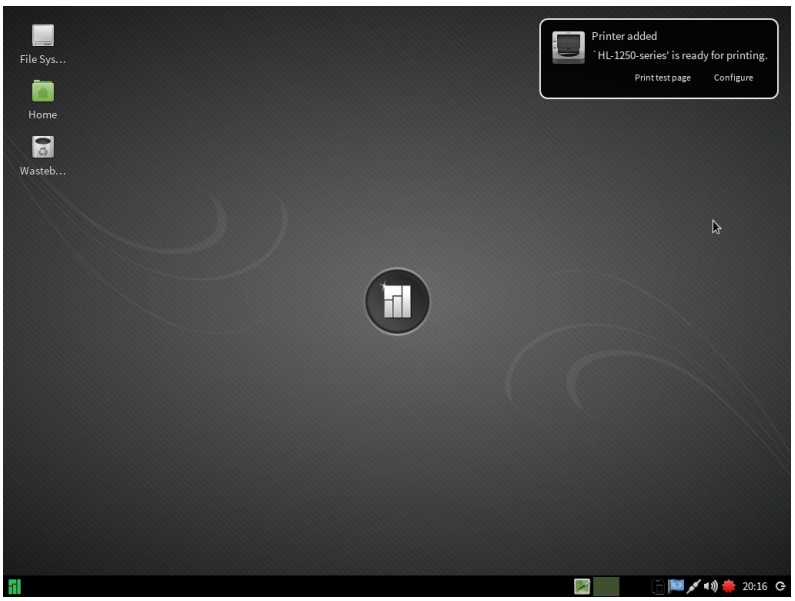
Manjaro comes with excellent printing support. Most printers can be installed just by plugging them in!

If you installed a minimal or Net edition you may have to install printing support first:

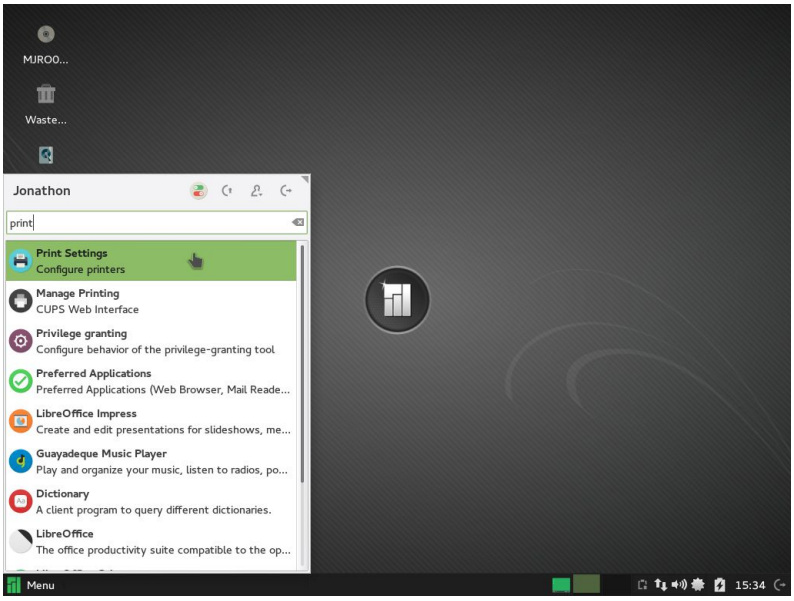
```
sudo pacman -S manjaro-printer
```



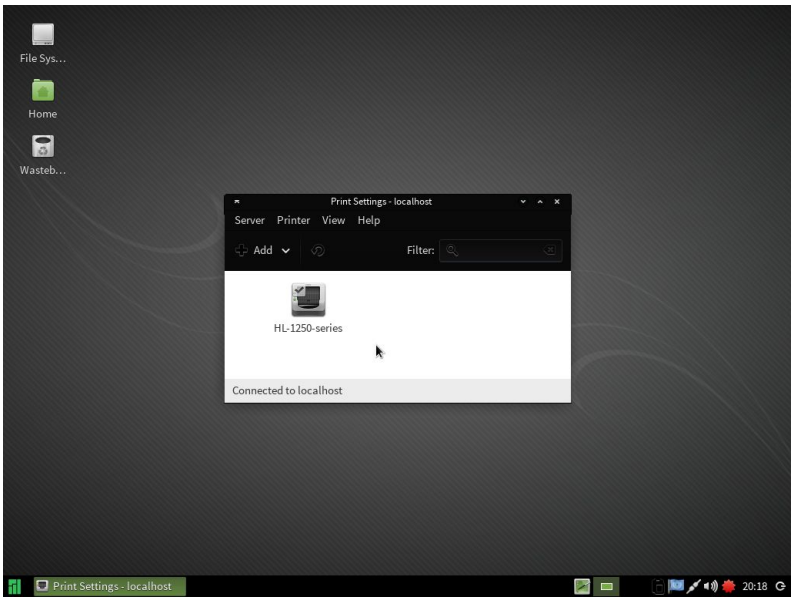

1: When you plug in your printer, Manjaro should detect this and automatically install the correct drivers...



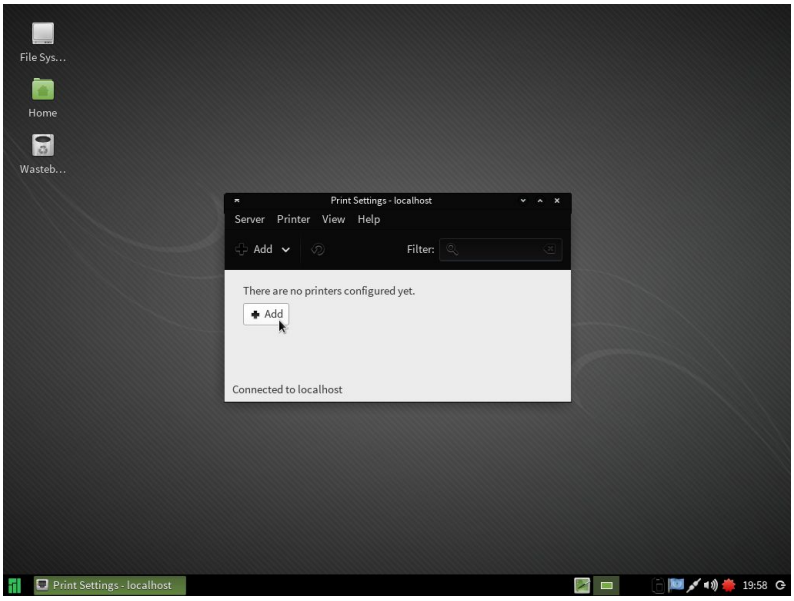

2: ... and make the printer available!



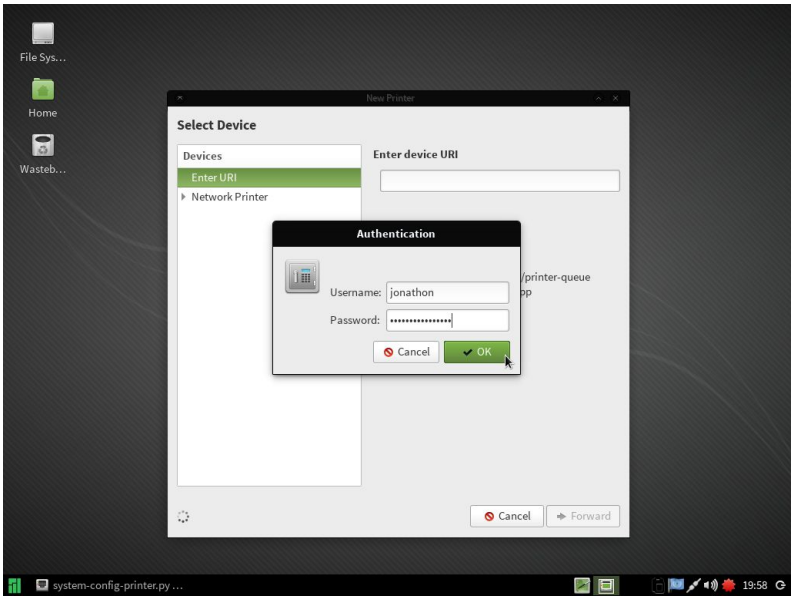

3: To check on the available printers, find and open **Print Settings** in the applications menu.



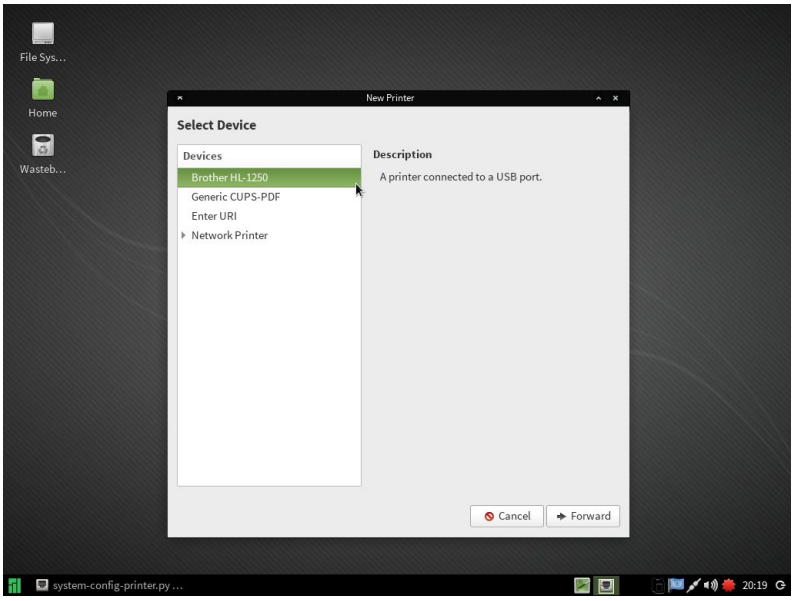

4: If the printer was successfully installed it will show up here. You're ready to print!



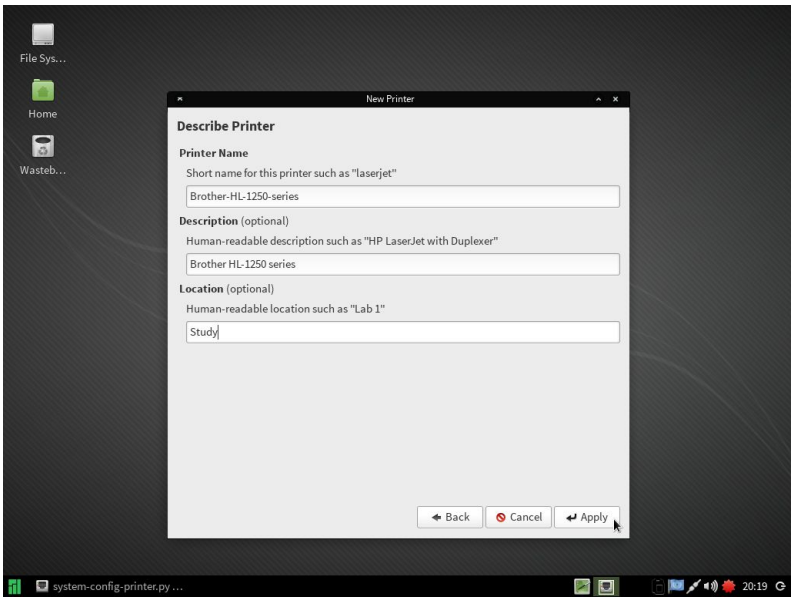

5: Otherwise, you can add the printer manually. Click **Add** to begin the process.



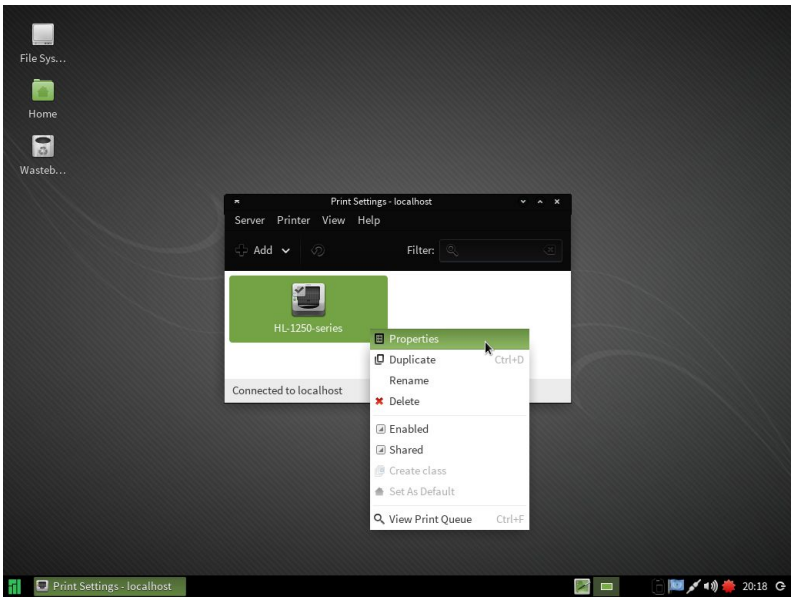

6: You will need to enter your password to allow the printer detection process. Once you've typed in your password, click **OK**.




7: All detected printers will show in the devices list. Select your printer, then click **Forward**.
If your printer does not show up it's possible that your printer isn't compatible with Manjaro. Due to the vast number of printers out there you may need to install drivers manually - please visit the forum or IRC channel for help!




8: As Manjaro installs your printer you can change some settings like its name and location. These provide an easy way of identifying the printer.

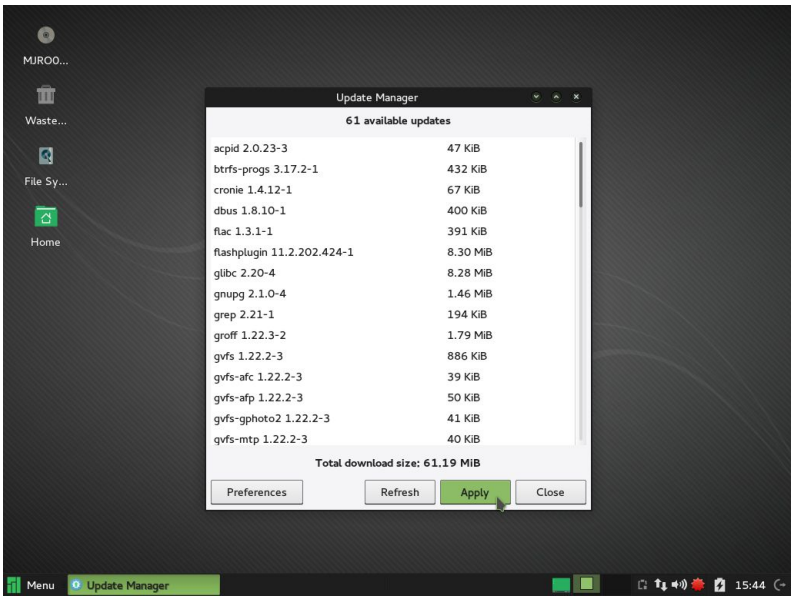



9: Your printer should now show in **Printer Settings**, where you can view the print queue and change the printer settings. Happy printing!

## *Updating software*

After logging in you may notice a couple of pop-ups informing you of software updates. This is great! It means your internet connection is working correctly, and that there is new software ready and waiting for you!

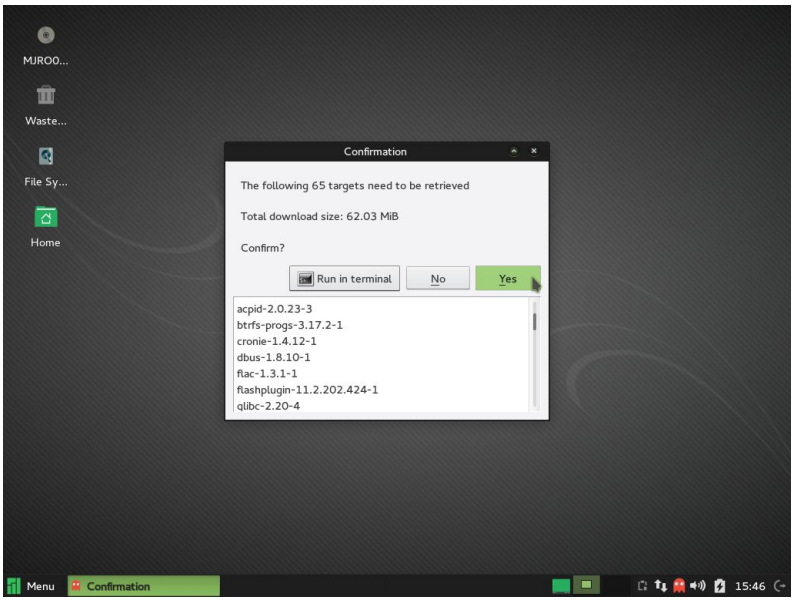
### *Pamac*



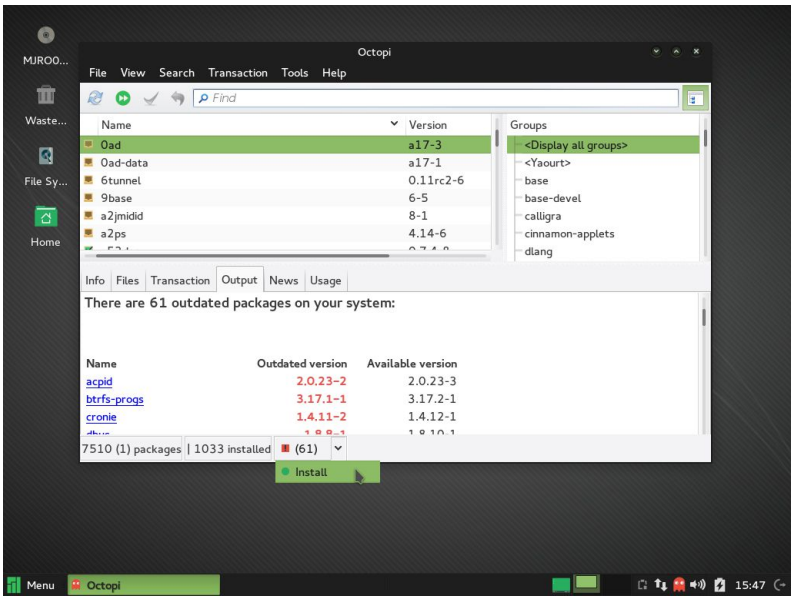

1: Pamac's Update Manager is available from the system tray. In this screenshot it has a red icon, indicating there are software updates. An update check is performed automatically; all you have to do is click **Apply** and any updates will proceed automatically!

*Octopi*

Octopi is an alternative software manager for Manjaro. It is installed with the Openbox and KDE editions as it is based on the QT toolset. It also has a very funky icon!




2: Octopi's update notifier is available from the system tray. In this screenshot it has a red icon, indicating there are software updates. An update check is performed automatically; all you have to do is click **Yes** and any updates will proceed automatically!

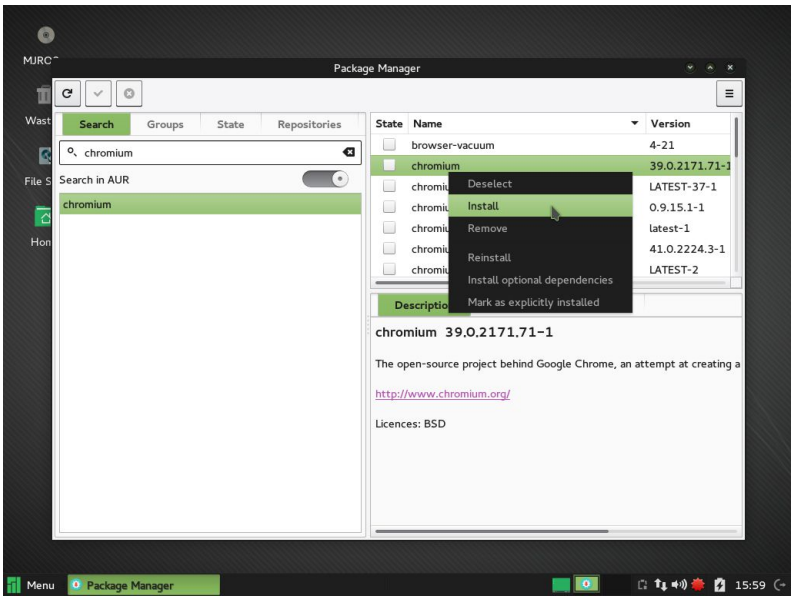



3: Alternatively, you can load Octopi's full interface. The red star indicated there are updated available, and the number shows how many. To show what is available, click on the red icon. To install the updates, click on the arrow next to the red icon and then click on **Install**.

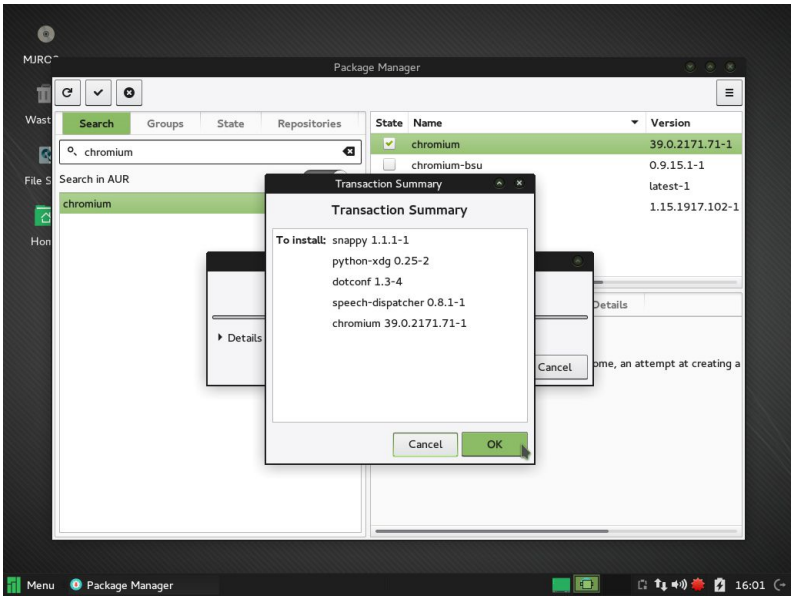
## *Installing new software*

There's a huge amount of software freely available in the Manjaro repositories. If you are connected to the internet you can download and install as many of this as you want at no cost! No advertising is embedded, no data gathering performed - you get just the software application, unlike with some other operating systems.

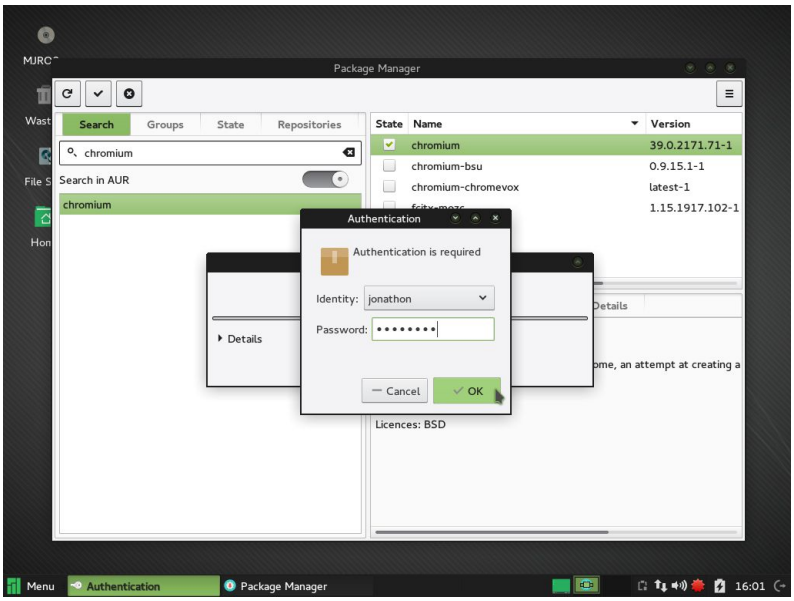
### *Pamac*



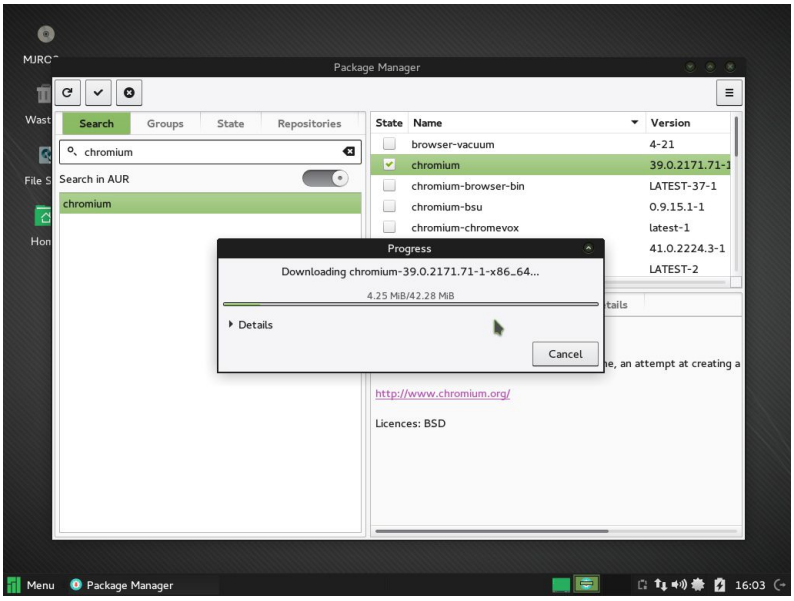

1: Pamac allows easy access to the available software. All software applications in the repositories are free; no need to worry about purchase or licensing costs. Once you've found the package you want to install, right-click and select **Install**, then click the tick in the top-left corner to confirm.



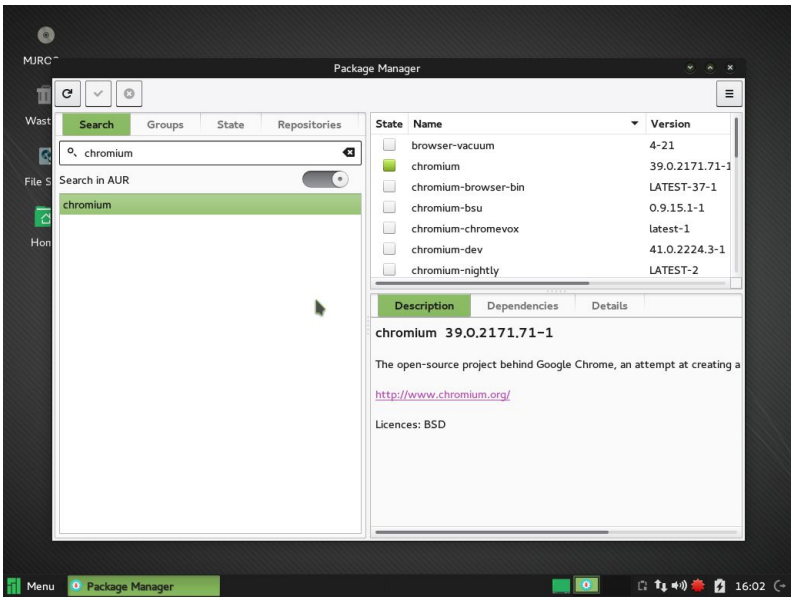

2: The packages to be installed are listed so you can check this is what you want to do. When you are happy with the selection, click **OK** and the software will be downloaded and installed.



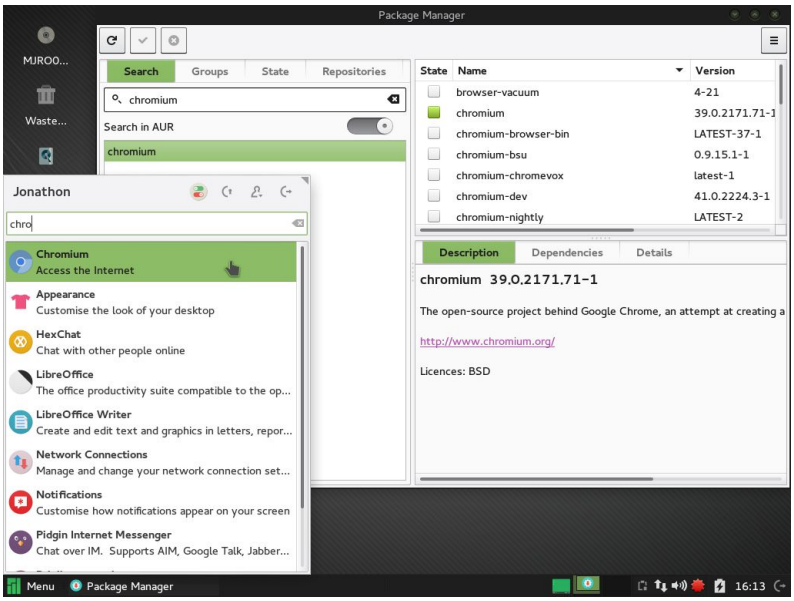

3: To stop other users removing important software from the system you will have to provide an administrative password. If you don't know this you can't go any further. There are methods to reset this password if needed; visit the forum or IRC channel to find out more. Enter your administrative password and click **OK**.




4: The software packages will be downloaded and installed. You don't have to do anything else!



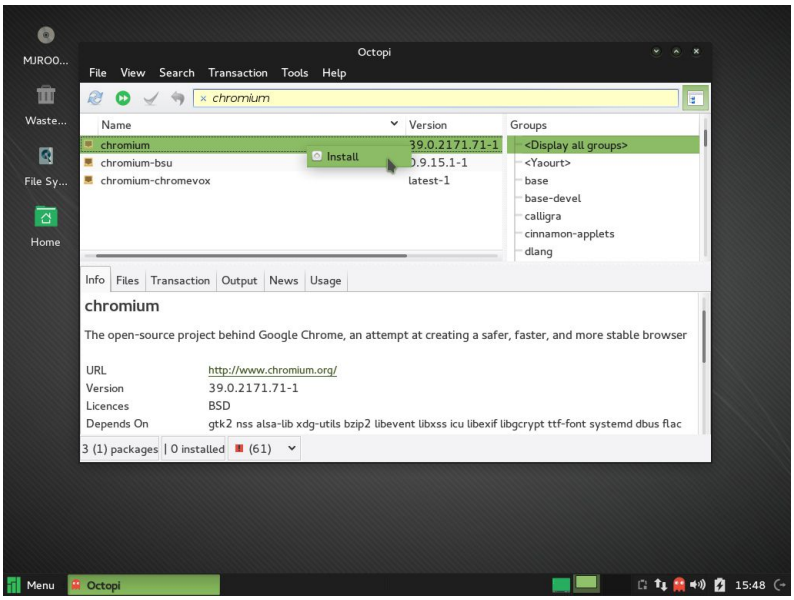

5: The new software will show as installed within Pamac.. You can close Pamac now if you want.



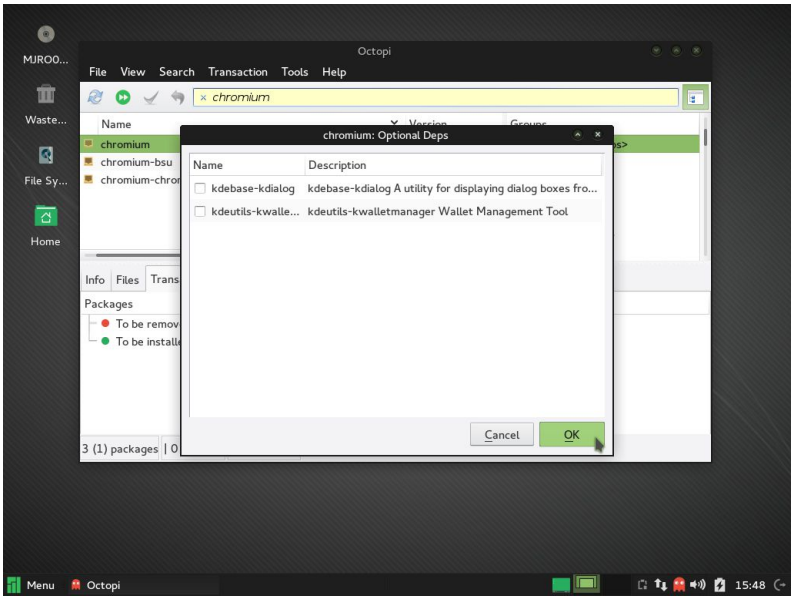

6: The new software is available in the application menu ready for you to use.

## *Octopi*

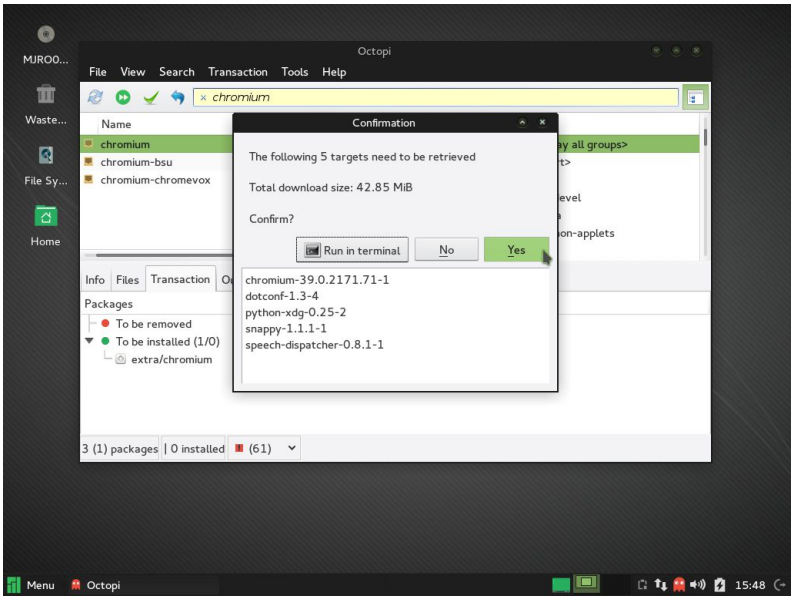
The process of installing new software using Octopi is very similar to Pamac.



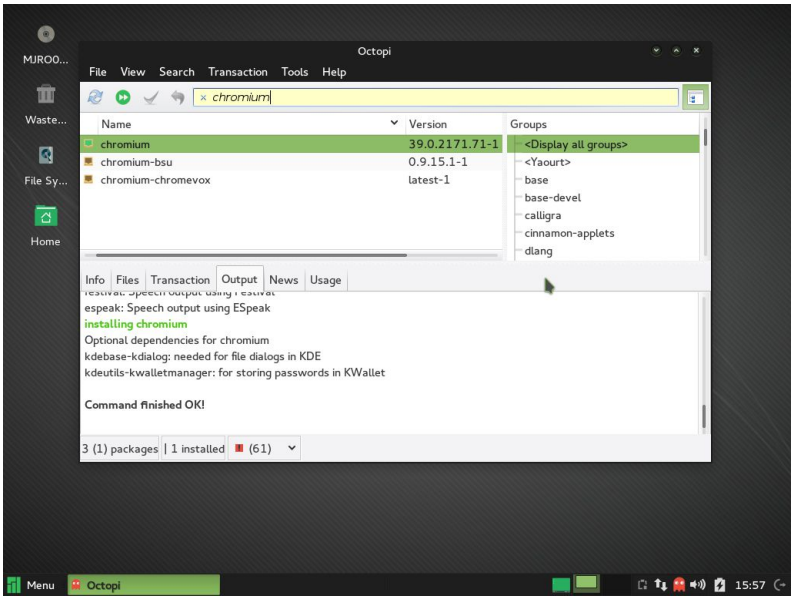

7: Octopi allows easy access to the available software. Do note that the search process is slightly different to Pamac as you can select whether to search by package name or package description. Once you've found the package you want to install, right-click and select **Install**, then click the tick in the top-left corner to confirm.



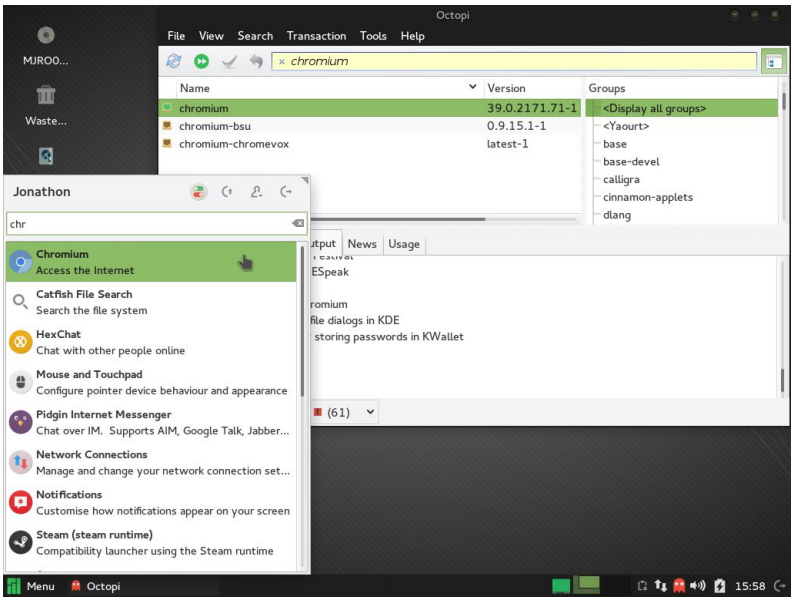

8: Some software will have other packages it can optionally use if they are installed. These "optional dependencies" can be selected here or ignored - you can always install them later if you want to!




9: The packages to be installed are listed so you can check this is what you want to do. When you are happy with the selection, click **Yes** and the software will be downloaded and installed.




10: Octopi will show a confirmation that it installed the new software. You can close Octopi now if you want.




11: The new software is available in the application menu ready for you to use.

## *Using Pacman*

Pacman is the Arch Linux **pac**kage **man**ager. This underpins Pamac and Octopi but doesn't have a graphical interface. Instead, it is used by typing commands on the terminal. The commands allow you to install, upgrade, configure, and remove software.

### *Synchronising with the Manjaro repositories*

As new packages are added to the repositories you will need to regularly synchronise the package lists. This is normally taken care of automatically on a regular basis by the software managers, but to perform this manually type the following into the terminal:

```
sudo pacman -Sy
```

This will only download the package lists if there has been a change. Occasionally you may want to force the package lists to be downloaded. To do this, type:

```
sudo pacman -Syy
```

### *Updating software*

Pacman will allow you to perform an update of software already installed:

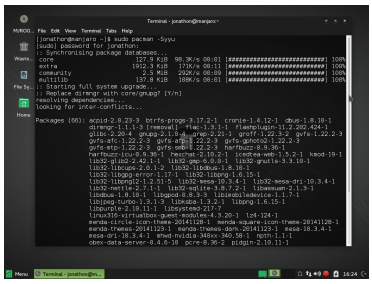
```
sudo pacman -Su
```

It's a good idea to check whether the package lists are up-to-date at the same time:

```
sudo pacman -Syu
```

You can also force a package list synchronisation before performing an update:

```
sudo pacman -Syyu
```



1: `sudo pacman -Syyu`

### *Searching for software*

Finding a package by name is really straightforward. For example, to search for a text editor called Leafpad:

```
sudo pacman -Ss leafpad
```

### *Installing software*

Installing a package is equally straightforward. For example, to install Leafpad:

```
sudo pacman -S leafpad
```

Many software applications depend on other software packages. Thankfully, pacman will automatically detect and install these!

### *Removing software*

To remove a software package you need to know its name, but the command is straightforward. To remove Leafpad:

```
sudo pacman -R leafpad
```

It's also possible to remove a package and any dependencies it required when it was installed. Assuming those other packages are not being used by another piece of software, they will become **orphan** packages. These serve no function other than taking up space! To remove a software package with its dependencies:

```
sudo pacman -Rs leafpad
```

A package may also create configuration files. Normally these are left in place so your configuration is not lost, and can be reused if you install the package again. However, if you want to remove these configuration files too, the command is:

```
sudo pacman -Rns leafpad
```

If at a later date you want to remove all orphan packages and configuration files for packages that you removed some time ago, the following command will do it:

```
sudo pacman -Rns $(pacman -Qtdq)
```

Be warned, though: this is an advanced command!

### *Other pacman commands*

It's a good idea to become familiar with the pacman commands. It can be a very useful tool in case the other software managers refuse to complete an installation, for example if an installation process is interrupted. The pacman man page is very informational:

**man** is short for **man**ual

```
man pacman
```

To exit, press `q`.

## *Updating the mirror list*

Manjaro Linux packages are hosted on a number of servers across the world; these servers **mirror** the official Manjaro software repository. When you first install Manjaro it will try to work out which server is closest to you so that software downloads complete as quickly as possible.

Sometimes, though, the list of mirrors can get old. New mirrors can become available, and some mirrors are removed. Updates to

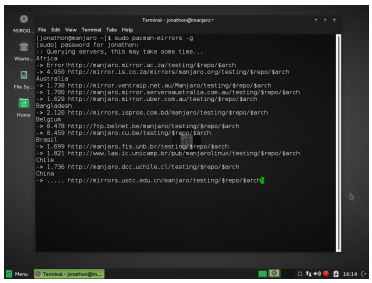
Manjaro will regularly trigger an update of the mirror list, but sometimes it's useful to do this manually.

To update the mirror list use the following command:

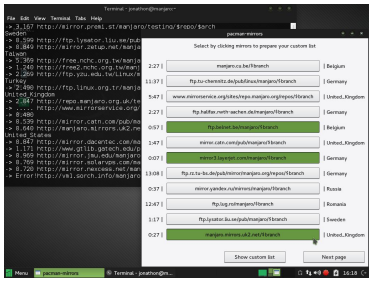
```
sudo pacman-mirrors -g
```

This will test the speed of all currently available mirrors and set your machine to use the best for you. Once this command has completed, you should force a download of the package lists:

```
sudo pacman -Syyu
```



2: `sudo pacman-mirrors -g`



3: `sudo pacman-mirrors -i`

### *Choosing mirrors*

If you would like more control over which mirrors to use, run the command:

```
sudo pacman-mirrors -i
```

This will allow you to select which mirror, or mirrors, to try when checking for software updates and downloading new packages. It's normally best to choose mirrors that are geographically close to you, so if you're in Canada then Canadian and US servers are generally a good bet. Of course, you're free to choose whichever you want!

To reset back to an automatic choice, run this command:

```
sudo pacman-mirrors -g -c all
```

Remember to force a download of the package lists to use the new mirrors!

### *Switching branches*

When you install Manjaro you will be using the stable branch. This set of packages has the most testing and so is the best for most users. However, you may want to help test packages before they move to the stable repository:

```
sudo pacman-mirrors -g -b testing
```

The testing repository has packages that have been checked by the Manjaro development team to make sure they work correctly. However, the amount of testing done is much smaller than for the stable branch - but this is how they get tested!

If you want to live on the bleeding edge, you can switch to the unstable branch. This is normally used by the Manjaro developers. Packages from the unstable branch can cause problems, so this is not something to do lightly:

```
sudo pacman-mirrors -g -b unstable
```

After switching branches you will need to force an update of the package lists:

```
sudo pacman -Syyu
```

If you switch away from the stable branch, but want to move back, it's actually pretty easy:

```
sudo pacman-mirrors -g -b stable
```

This will leave the newer packages on your system and these will be replaced as the stable branch catches up. However, if you want to force a downgrade of packages back to the stable version, use:

```
sudo pacman -Syyuu
```

## *More information*

Remember - there is plenty of information on the wiki `http://wiki.manjaro.org/` and discussion forum `http://forum.manjaro.org/`.

# *Index*


Add/Remove Software, 67
Adding a printer, 77
Advanced installation, 41
Automatic installation, 33

branches, 91
Burning to a CD/DVD, 24

desktop, 63
Downloading, 15

editions, 15
errors, checking for, 19

Favourites, 64
Features, 11
File Manager, 65
forum, 70

help, 69

Installing new software, 83
Introduction, 11
IRC, 71

Licence, documentation, 4
Live environment, 31

Mail Reader, 66
Mailing list, 73
Maintaining your system, 75
Manjaro Development Team, The, 5
Microsoft Windows 8, 50
mirror, 90

Octopi, 82

pacman, 89
pacman-mirrors, 91
Pamac, 81
printer, 77

settings, 75
Switching branches, 91

Terminal Emulator, 65
text-based installer, 57

UEFI, 47
Updating software, 81
USB flash drive, 26

Web Browser, 66
Wiki, 73
Writing a disc image, 23

manjaro